Red Hat Enterprise Linux subscription guide

Table of contents

Introduction

Red Hat® Enterprise Linux® powers the applications that run your organization with the control, confidence, and freedom that come from a consistent foundation across hybrid deployments. Red Hat is a trusted partner to more than 90% of the companies in the Fortune 500, and a Red Hat Enterprise Linux subscription provides you direct access to, and advocacy within, the open source community and an ecosystem of thousands of cloud, software, and hardware providers.

The Red Hat Enterprise Linux subscription guide is your key to selecting the subscriptions that best meet your technical and business requirements, regardless of which version of Red Hat Enterprise Linux you are using. The guide also outlines the terms of your subscriptions and includes information on managing and renewing subscriptions.

Designed for the purchasing manager and those within the procurement function, the guide focuses on the details of aligning subscriptions to architectures rather than on the architectures themselves. It provides scenario-based worksheets that cover common development and production deployments. The guide also describes Red Hat Customer Experience and Engagement and the many ways in which customers and users can benefit from their Red Hat subscriptions, including the Customer Portal and service-level agreements (SLAs) for the support offerings.

What you get when you purchase a subscription

Your investment in Red Hat Enterprise Linux subscriptions delivers these key benefits.

Access to:

1. *Enterprise software.* A subscription provides access to the latest Linux innovation built from a controlled supply chain of open source software, including continuous delivery of patches and upgrades at no additional cost. The subscription is to Red Hat Enterprise Linux, not any particular version of that product. As new versions of Red Hat Enterprise Linux are released, organizations can immediately use that software without an additional license. This allows you to upgrade on a

schedule that is convenient for your organization, without a time-consuming or costly sales cycle. Your subscription also provides Red Hat Enterprise Linux access in multiple public cloud environments. Adopting Red Hat Enterprise Linux ensures that you have an engineered and certified platform to work with the entire Red Hat portfolio.

2. *Emerging open source technologies.* Because Red Hat is a trusted adviser and leading contributor to open source communities, we have the insight to identify emerging technologies and the resources to evolve them into reliable, security-focused solutions to meet our customers' current and future IT needs. This trusted advisor status also allows us to propose and guide requests for enhancements from our customers to the communities.

3. *Integrated analytics with remediation, management, and automation.* To make sure your Red Hat Enterprise Linux environment is operating optimally, your subscription includes access to Red Hat Insights. Insights is a Software-as-a-Service (SaaS) offering that analyzes your environment, including the underlying server as well as applications such as SAP and Microsoft SQL Server and helps IT teams proactively identify and remediate security threats, performance bottlenecks, and misconfigurations that could affect security, compliance, availability, and stability. Your subscription supports subscription offerings such as Red Hat Smart Management and Red Hat Ansible® Automation Platform.

4. *Life cycle support and flexibility.* Red Hat provides a variety of life cycle options that allow organizations to continue receiving improvements and security fixes without being forced into a complex and costly upgrade process. All Red Hat Enterprise Linux subscriptions provide 10 years of support for each major release. Additional subscription offerings entitle organizations to stay on a particular minor release for a period of time, providing them more flexibility in their upgrade planning.

5. *Support and expertise.* In addition to phone and online incident support, your subscription gives you access to an award-winning, knowledge-centered support system that includes access to reference architectures, documentation, videos, and collaborative discussions with Red Hat experts. Above and beyond support and sharing best practices, the Red Hat Customer Portal delivers information about ongoing security vulnerabilities and the critical steps your team can take to mitigate their effect. Finally, Red Hat Services has certified consultants available to accelerate your work and reduce time to value. These services can only be used in the context of a paid subscription.

6. *Security resources.* Red Hat has a dedicated team of engineers who monitor, identify, and proactively notify you of risks. The Red Hat security team remediates these vulnerabilities by creating, testing, and delivering security patches for all Red Hat Enterprise Linux versions during their respective supported life cycles. Among the many deliverables of these engineers are:

   ▸ kpatch, which allows our customers to patch their running Linux kernel without rebooting. This lets sysadmins apply critical security patches to the kernel immediately without having to wait for long-running tasks to complete, users to log off, or scheduled SLA windows. It gives more control over uptime without sacrificing security or stability.

   ▸ A database of Red Hat common, vulnerability, and exposures (CVEs), which links to the definitive version maintained by MITRE and provides additional information on criticality and risk in the Red Hat-specific implementation of the software, explaining what we have done to

address the issue and providing detailed guidance on what our customers should do to protect their environments from the threat. This allows our customers to focus better and prioritize their security efforts.

▸ Certification and compliance engineering for Red Hat Enterprise Linux and other offerings for key government and commercial security standards.

Advocacy for:

7. *Visibility and influence over Red Hat Enterprise Linux.* Because Red Hat Enterprise Linux is based on these upstream projects, your organizations can help influence the components incorporated into Red Hat Enterprise Linux and help power our roadmap. The subscription makes sure you can see the entire product process, from upstream to a three-year product roadmap. This makes it more convenient for your business to plan its own life cycle. Additionally, the subscription provides operational transparency, visibility, and predictability in our Fedora and CentOS Stream project roadmaps.

8. *Community leadership in open source projects.* Red Hat advocates for customer and partner needs through leadership and major open source community contributions. Your subscription funds continuous support of upstream projects to advocate for your requirements so that they can be implemented as future product features in Red Hat Enterprise Linux. Red Hat also fosters innovation by sponsoring community projects like Fedora by allowing these communities to create, test, and integrate technologies in a community-led governance model that makes certain we get feedback from everyone, not just Red Hat. And finally, we have created projects like CentOS Stream to keep community-powered contributions coming to the product during its active life cycle.

9. *Partnership with hardware, software, and cloud providers.* A subscription funds the resources needed to integrate Red Hat Enterprise Linux with our large certified hardware ecosystem, which provides a stable and high-performance platform for certified enterprise-software applications. The subscription also funds the engineering necessary for Red Hat Enterprise Linux to run on and integrate with all major certified cloud providers. These partnerships translate to early, ongoing, and intensive technical collaboration with Red Hat Enterprise Linux engineering teams, resulting in problems that are identified and fixed before the next Red Hat Enterprise Linux release. This allows your organization to standardize on Red Hat Enterprise Linux using your choice of architecture and hardware.

10. *Your security needs.* Red Hat is trusted by security standards groups and can be your advocate within the community, government, and industry associations. Red Hat also partners with a variety of security teams from other organizations and can gain access to vulnerability information before it is public. Red Hat works to assess security problems and their applicability to our products, issuing patches or remediations as needed. Finally, Red Hat Enterprise Linux also includes various security capabilities such as Identity Management, SELinux, Linux audit subsystem, and control groups offering organizations support for practical problems within the government sector, highly regulated industries and any customer interested in protecting their assets and reputation. Red Hat acts as a catalyst for these collaborations making sure that diverse audiences connect with each other and solve common problems as a team.

Support for the production environment

Red Hat customers benefit from a collaborative support relationship with our knowledgeable domain experts. When you engage in the Red Hat support process, you will often work with the people who write and test the software and oversee the open source development of the underlying technologies. As a customer you may contact us to take advantage of our expertise during all phases of planning, testing, deploying, maintaining, and upgrading your infrastructure. These interactions are provided as part of your subscription.

Red Hat provides two modes of support: development and production. This section covers production support, which is sometimes delivered in conjunction with our partners. Development support is described in this guide's "Development environment" section.

For production environments, Red Hat subscriptions have two levels of support Standard and Premium, which are distinguished by different SLAs that define initial and ongoing response times.

Red Hat also provides third-party support for enterprise hardware, software, and certified cloud providers. The Red Hat product certification provides the confidence and assurance that your third-party tools and solutions are tested and certified on Red Hat Enterprise Linux. For a complete list of tested, certified, and supported components, see the Red Hat Ecosystem Catalog. For more general information about supported and unsupported components, see As a customer how does Red Hat support me when I use third-party components.

Table 1. SLAs for Red Hat Enterprise Linux subscriptions

Red Hat Enterprise Linux service levels (View production support terms of service for more information.)			
Service	**Self-support**	**Standard**	**Premium**
Hours of coverage	N/A	Standard business hours	Standard business hours (24x7 for Severity 1 and Severity 2)
Support channel	None	Web and phone	Web and phone
Number of cases	N/A	Unlimited	Unlimited

Response times			
Severity	**Standard**	**Premium**	
	Initial and ongoing response	Initial response	Ongoing response
Severity 1 (Urgent): A problem that severely affects your use of the software in a production environment (such as the loss of production data or production systems not functioning). The situation halts your business operations, and no procedural workaround exists.	1 business-day hour	1 hour	1 hour, or as agreed
Severity 2 (High): A problem in which the software is functioning, but your use in a production environment is severely reduced. The situation is greatly affecting portions of your business operations, and no procedural workaround exists.	4 business-day hours	2 hours	4 hours, or as agreed
Severity 3 (Medium): A problem that involves partial, noncritical loss of use of the software in a production environment or development environment.	1 business day	4 business-day hours	8 business-day hours, or as agreed

Response times			
For production environments, there is a medium-to-low effect on your business, but your business continues to function, including by using a procedural workaround. For development environments, the situation is causing your project to no longer continue or migrate into production.			
Severity 4 (Low): A general usage question, reporting of a documentation error, or recommendation for a future product enhancement or modification. For production environments, there is low-to-no effect on your business or the performance or functionality of your system. For development environments, there is a medium-to-low effect on your business, but your business continues to function, including by using a procedural workaround.	2 business days	8 business-day hours	2 business days, or as agreed

Glossary

Guest: An instance of the software running in a virtual machine that is running on a hypervisor. In the Red Hat subscription model, a guest is associated with a physical system.

Physical node: A physical system on which you install or execute all or a portion of the software, including, without limitation, a server, workstation, laptop, blade, or other physical system, as applicable.

Socket: A central processing unit (CPU) socket on a motherboard.

Socket-pair: Up to two sockets where each is occupied by a CPU on a system. Two servers with a single occupied socket on each must be entitled separately; therefore, you would purchase two subscriptions—one for each server.

Stacking: The ability to purchase multiple subscriptions to cover a multisocket machine. For example, the base subscription unit is a socket-pair. To entitle an eight-socket machine, you would purchase four base subscriptions.

System: A system on which you install or execute all or a portion of the software. A system includes each instance of the software installed or executed on, without limitation, a server, workstation, laptop, virtual machine, blade, node, partition, appliance, or engine, as applicable.

Virtual node: An instance of the software executed, in whole or in part, on a virtual machine or container.

Subscription packaging model

Today's complex infrastructure environments built from combinations of physical, virtual, and cloud deployments require a purchasing model that provides choice and flexibility. The Red Hat Enterprise Linux Server subscription model lets you choose the basis on which you purchase, stack subscriptions to streamline purchasing, and move subscriptions from physical to virtual to cloud and back to adapt to changing requirements.

Socket-pair for each physical node or two virtual nodes

As a Red Hat customer, you have the choice of deploying your Red Hat Enterprise Linux products on either a physical or virtual basis. If you are deploying Red Hat Enterprise Linux on physical hardware, your subscriptions are based on the number of socket-pairs in the systems used. If you are deploying Red Hat Enterprise Linux in a virtual environment, whether on-premise or hosted on a third-party service such as a public cloud, your subscriptions are based on the number of virtual nodes running the product. Each Red Hat Enterprise Linux subscription for physical and virtual servers entitles a customer to use that subscription on a physical node with up to two sockets or two virtual nodes regardless of virtual sockets. **The subscriptions that follow this model are:**

▸ Red Hat Enterprise Linux Server Standard and Premium.

▸ Red Hat Enterprise Linux Add-Ons.

Self-support subscriptions

▸ Do not include Red Hat customer support.

▸ Cannot be stacked with other subscriptions.

▸ Are not intended for production environments.

▸ Are not for use with Red Hat Cloud Access.

Virtual deployment subscriptions

Red Hat also offers a subscription model that allows you to run an unlimited number of Red Hat Enterprise Linux virtual instances and is best for high-density virtual environments. This subscription model is offered on a physical socket-pair basis.

The unlimited guest model's subscriptions are:

▸ Red Hat OpenStack® Platform.

▸ Red Hat Enterprise Linux for Virtual Datacenters.

▸ Red Hat Enterprise Linux Add-Ons.

Stacking

Stacking gives you the flexibility to aggregate Red Hat Enterprise Linux subscriptions to accommodate any size physical server. The base Red Hat Enterprise Linux model includes entitlements for two sockets, which is all you need for a two-socket server. If you have a four-socket server, you would need two subscriptions. For an eight-socket machine, you would need four subscriptions, and so forth. In this way, your subscriptions can "stack" to scale to any size system. Moreover, as your physical infrastructure changes, you can adjust your subscriptions to match your infrastructure. You can replace two 2-socket systems with a 4-socket system and vice versa without increasing the number of subscriptions.

Subscription portability

Subscription portability gives you another degree of flexibility. It lets you transfer a physical two-socket subscription to a two-virtual-instance subscription without contacting Red Hat to adjust your terms. Transferring virtual instance-pairs as physical socket-pairs is also possible. This allows you to migrate your infrastructure from physical to virtual continually. The ability to migrate between physical and virtual deployment applies to Red Hat Enterprise Linux Server and its Add-Ons.

Assembling your subscription order

The Red Hat Enterprise Linux Server subscription model is:

▸ Based on socket-pairs for each physical node or two virtual nodes.

▸ Usable in physical, virtual, or cloud deployments.

▸ Stackable.

▸ Available with Standard or Premium support.

There are basic questions to answer when determining the number and type of subscriptions you need. For simplicity's sake, the questions assume that you have either a physical environment or a virtual environment and that it is a low-density environment—meaning, you are running four or fewer guests per system. In reality, you will likely have a hybrid environment with various hypervisors and a blend of high- and low-density environments. The "Subscription scenarios and recommendations" section will walk you through several examples of blended and open hybrid cloud deployments.

1. Are you purchasing subscriptions for a physical or a virtual environment? If the answer is a physical environment, go to step 2. If your answer is a virtual environment, go to step 3.

2. Typical physical server configurations are 1-, 2-, 4-, and 8-socket systems.

   a. How many systems do you have of each kind of socket configuration?

   b. Count the number of one-socket systems you have. Each of these must be entitled with a socket-pair subscription. This subscription type cannot be split across different physical systems.

   c. For your multisocket systems, total the number of sockets and divide by two. Add the result to the number of one-socket systems. This total is the number of subscriptions you will purchase to entitle your physical servers.

   d. Proceed to step 4.

3. How many virtual servers do you have?

   a. Divide the number of virtual instances by two. This is the number of subscriptions you will purchase for the guests in your virtual environment.

   b. Proceed to step 4.

4. Which Add-Ons do you want to include? Add-Ons follow the same socket-pair subscription model, and like the Red Hat Enterprise Linux subscriptions, can be migrated between physical and virtual systems.

5. Which support service level does your deployment require—Standard or Premium?

These worksheets present calculations for some simple deployment scenarios.

Sample worksheet 1: Provisioning physical layers

Counting method	Systems	Socket-pairs	Subscriptions
Number of 1-socket systems	10	5	10 (must have 1 per physical system)
Number of 2-socket systems	10	10	10 (1 per socket-pair)
Number of 4-socket systems	2	4	4 (1 per socket-pair)
Number of 8-socket systems	2	8	8 (1 per socket-pair)
Number of subscriptions to purchase			32

Sample worksheet 2: Adding guests to a virtual environment

Counting method	Number
Number of guests	20
Divide number of guests by two for the number of subscriptions to purchase	10

Sample worksheet 3: Setting up a virtual environment

These solutions are aimed at use cases for dense virtualization and are more cost-effective overall for those types of deployments. See the "Subscription scenarios and recommendations" section for information on more complex virtual environments.

Counting method for hypervisors	Socket-pairs	Subscriptions
Number of 1-socket systems	10	10 (one per system)
Number of 2-socket systems	10	10 (one per socket-pair)
Number of 4-socket systems	2	4 (one per socket-pair)
Number of 8-socket systems	2	8 (one per socket-pair)
Number of subscriptions to purchase hypervisors		32

Counting method for guests	Number
Number of guests	40 (virtual instances)
Divide the number of guests by two for the number of subscriptions to purchase	20
Total number of subscriptions to purchase	52

Subscription scenarios and recommendations

The subscription scenarios in this section expand on the previous worksheets by adding elements found in actual deployments like the high-availability ones.

Physical production environment

A physical production environment often has servers with 1, 2, 4, 8, or more sockets and typically includes Red Hat Add-Ons that enhance availability, performance, or scalability. Figure 1 shows how many Red Hat Enterprise Linux Server subscriptions are needed to cover a critical production environment.

Number of Red Hat Enterprise Linux Server subscriptions in a critical production environment

Figure 1. Subscriptions for a physical, critical production environment
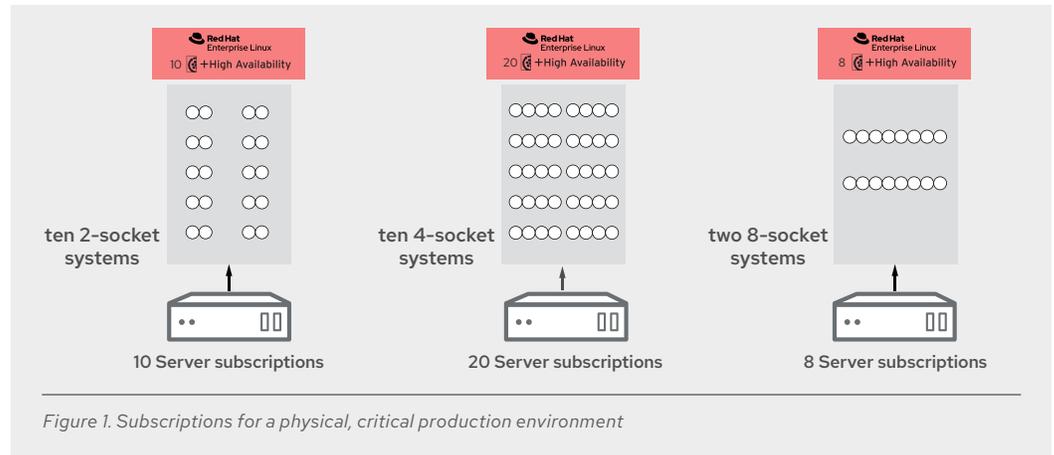
This worksheet details the subscription allocations shown in Figure 1. Note that there are no 1-socket systems in this example.

Sample worksheet 4: Setting up a physical, critical production environment

Counting method	Socket-pairs
Number of sockets	76
Divide number of sockets by two for the number of subscriptions for Red Hat Enterprise Linux Server	38
Number of subscriptions for the High Availability Add-On	38

Virtual production environment

A virtual environment includes virtual guests in addition to physical servers that host the hypervisors. The configuration shown in Figure 2 assumes that the hypervisor is Red Hat Enterprise Virtualization and that the guests are all Red Hat Enterprise Linux. This configuration is a low-density production environment, meaning there are four or fewer guests running concurrently on a hypervisor.

Note: Red Hat will support numerous virtual CPUs in virtualized guests of any supported operating system (OS) running in the KVM hypervisor on Red Hat Enterprise Linux Server. For a list of virtualization limits for Red Hat Enterprise Linux with KVM, please review the following - Virtualization limits for Red Hat Enterprise Linux with KVM. For more robust management, including network segmentation, load balancing, and persistence, consider Red Hat OpenShift Virtualization or Red Hat OpenStack Platform, which provides a supported hypervisor and management tools for large-scale virtualization.

For more information about which hypervisors have been tested and certified to run on Red Hat Enterprise Linux, including Microsoft Hyper-V, VMware and Nutanix, see—Which hypervisors are certified to run Red Hat Enterprise Linux.

Number of Red Hat Enterprise Linux Server subscriptions in a virtual, critical production environment
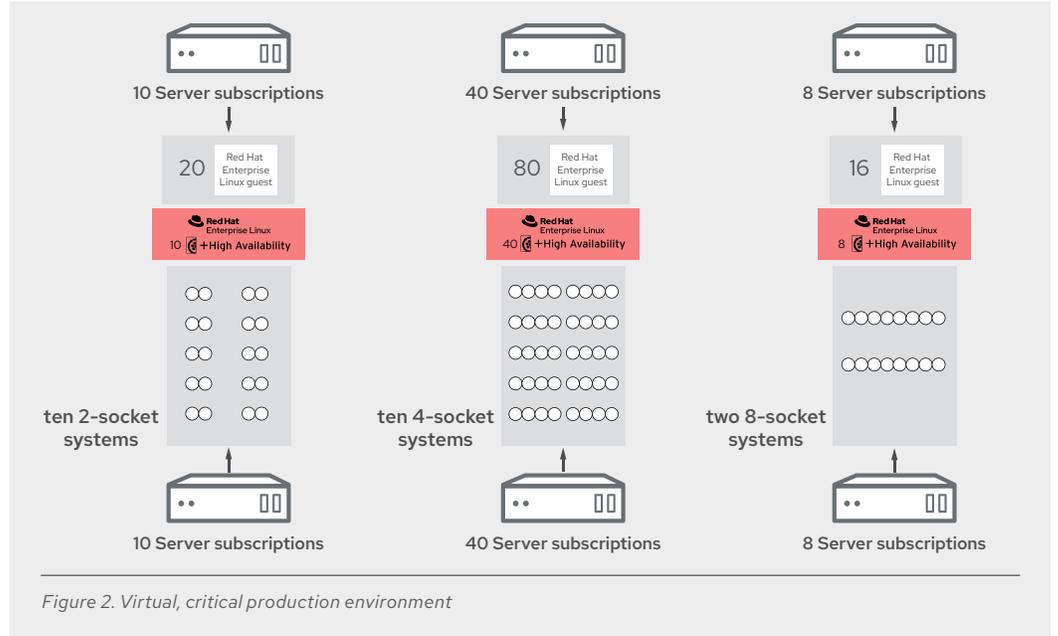

Figure 2. Virtual, critical production environment

Figure 2 is the same as Figure 1 except for the added virtual guests. The assumption is that every node in this cluster must run as highly available in a critical environment. The virtualized production environment would have the same High Availability Add-Ons as a physical production environment. This worksheet shows the calculations for added guests.

Sample worksheet 5: Calculating subscriptions for guests

Counting method for guests	Virtual instances	Notes
Number of guests	116	Virtual instance-based packaging does not require counting physical systems or socket-pairs.
Divide the number of guests by two for the number of Red Hat Enterprise Linux Server subscriptions	58	These subscriptions can be repurposed as physical socket-pair subscriptions.

The scenario in Figure 3 assumes that the virtual environment is a 100% Red Hat Enterprise Linux environment. Figure 3 shows an environment where the hypervisors are VMware, and the guests are Red Hat Enterprise Linux.

Number of Red Hat Enterprise Linux Server subscriptions on VMware
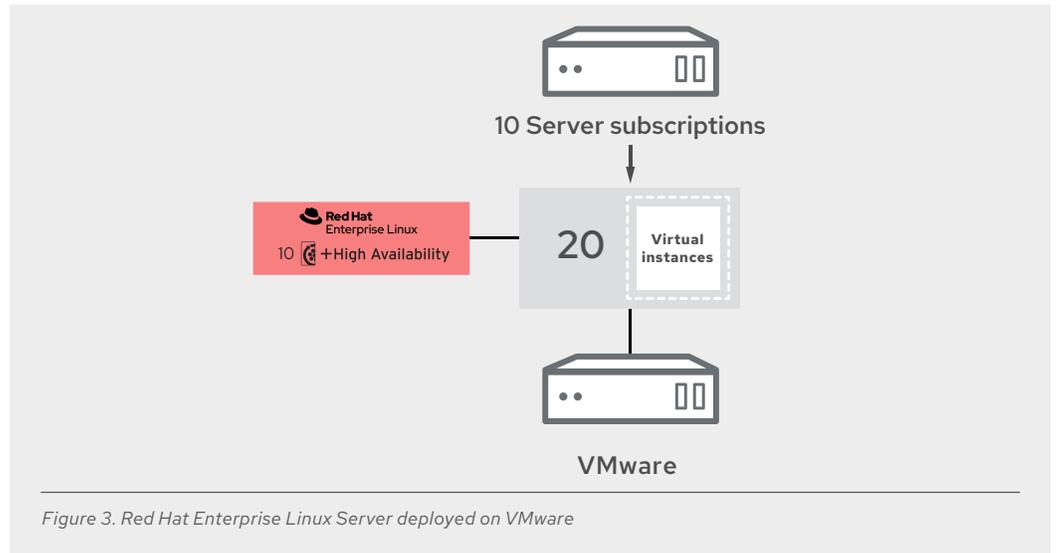

Figure 3. Red Hat Enterprise Linux Server deployed on VMware

This worksheet shows the calculations for the subscriptions required to cover the deployment in Figure 3.

Sample worksheet 6: Calculating subscriptions for Red Hat Enterprise Linux on virtual environment

Counting method for guests	Virtual instances	Notes
Number of guests	20	
Divide number of guests by two for the number of Red Hat Enterprise Linux Server subscriptions	10	These subscriptions can be repurposed as physical socket-pair subscriptions.
Number of subscriptions for the High Availability Add-On	10	All Add-Ons are available for virtual instances. These subscriptions can be repurposed as physical socket-pair subscriptions.

Open hybrid cloud

Red Hat defines an open hybrid cloud environment as one that includes a combination of physical, virtual, and private or public cloud deployments. Red Hat Enterprise Linux portfolio has subscriptions that serve all of these environments. The following example builds on the previous ones. The physical and virtual environments depicted in Figure 4 are the same with the addition of private and public cloud components.

For more information on Red Hat architecture and products that make up our open hybrid cloud portfolio, see What is hybrid cloud?

Number of Red Hat Enterprise Linux Server subscriptions in a hybrid cloud environment
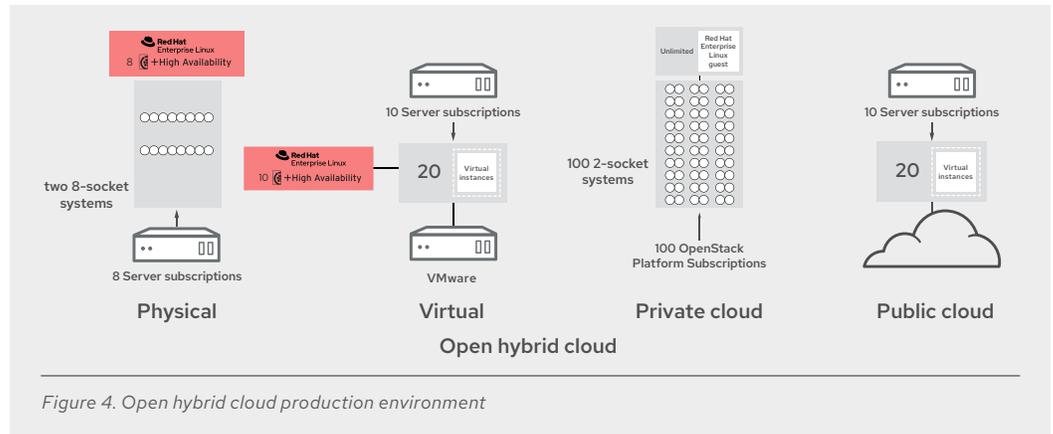

Figure 4. Open hybrid cloud production environment

The physical host systems in the open hybrid cloud environment and the guests are covered by subscriptions for Red Hat OpenStack Platform. These worksheets show the calculations for purchasing subscriptions for private and public clouds.

Sample worksheet 7: Calculating subscriptions for a private cloud environment

Counting method for physical machines	Socket-pairs	Notes
Number of sockets	200	
Divide the number of sockets by two for the number of subscriptions for Red Hat OpenStack Platform	100	There are no 1-socket systems in this example.

Counting method for guests	Virtual instances	
Number of guests in private cloud	Unlimited	
The unlimited guests are included in the Red Hat OpenStack Platform subscription	0	

Sample worksheet 8: Calculating subscriptions for a public cloud environment

Counting method for public cloud	Virtual instances	Notes
Number of virtual instances	20	
Divide the number of virtual instances by 2 for the number of subscriptions for Red Hat Enterprise Linux Server	10	These are the same type of subscription as the ones for the physical server. You choose whether you want to deploy it in a physical, virtual, or cloud environment.

High-performance computing (HPC)

These are the necessary subscriptions for a high-performance computing (HPC) environment. Red Hat defines these as being composed of many identical noninteractive "compute" nodes, each fed jobs by a "head" node hosting a scheduler. Jobs almost always span multiple compute nodes using toolkits such as message passing interface (MPI).

HPC use case

▸ Head node(s): Use Red Hat Enterprise Linux for HPC Head subscription.

▸ Compute node(s): Use Red Hat Enterprise Linux for HPC Compute subscription.

▸ Login node(s): Use Red Hat Enterprise Linux Standard subscription.

▸ Storage node(s): Use Red Hat Enterprise Linux Standard subscription.

Disaster recovery

Disaster recovery is an important component of production environment design. Red Hat has purchasing policies for disaster recovery systems that address the most common scenarios—hot, warm, and cold backups.

Hot backups: The server is frequently turned on and ready to move into production mode immediately. This is typically what failovers do within a cluster.

In this case, two subscriptions are required, one for the production server and one for the hot backup server. For every server that needs hot backup, the subscription required must be of the same type in terms of SLA and configuration. The manufacturer's suggested retail price (MSRP) of the hot backup disaster recovery subscription is the same as the MSRP of the regular subscription.

Warm backups: The server is turned on periodically to receive backups of data from the production servers and updates from Red Hat's Content Delivery Network (CDN). These periodic updates are performed no more frequently than every 60 days. For example, warm backups are used in mirroring, replication, and log-shipping scenarios.

In this case, two subscriptions are required. One is used for the regular production purpose, and the other reads as a disaster recovery subscription in the description. (The MSRP of the warm backup disaster recovery subscription is 50% off the MSRP of the regular subscription).

Cold backups: The server has software installed and configured but is turned off until the disaster occurs or for periodic disaster recovery procedure tests. For Red Hat Enterprise Linux, this means that you are allowed to preload the bits as a courtesy. However, Red Hat's CDN cannot be used to update the system until the disaster happens. Then, the paid subscription on the failed machine transfers to the cold backup server.

In this case, you do not need two subscriptions. You will use only one subscription at a time. As a courtesy, Red Hat will allow you to preprovision the software bits onto the cold backup machine. If you are found to be running more units of Red Hat Enterprise Linux than you have subscribed for because you have found a use for these preprovisioned servers other than this cold backup use case, you will be obligated to pay Red Hat.

Development environment

Red Hat Enterprise Linux offers several types of subscriptions to support development teams. Team size and required support level are the factors to consider when selecting subscriptions.

1. Size of team:

▸ For teams of 25 members or more, Red Hat Enterprise Linux Developer Support Professional includes developer support with a response time of two business days.

▸ For teams of 25 members or more, Red Hat Enterprise Linux Developer Support Enterprise offers the highest level of developer support with a response time of four hours.

▸ For an individual developer, Red Hat Enterprise Linux Developer Suite is a self-supported Linux distribution and includes all Red Hat Enterprise Linux Add-Ons, Red Hat Software Collections, and the Red Hat Developer Toolset. This subscription is for development purposes only.

2. Support service:

▸ Self-support includes access to software updates, the Red Hat Knowledgebase, and technical content on the Red Hat Customer Portal. It does not include phone or web support from Red Hat.

▸ Professional support additionally includes unlimited web and phone requests during standard business hours with a response time of two business days.

▸ Enterprise support also includes unlimited web and phone requests during standard business hours, but with a response time of four hours.

All of the development subscriptions include membership in the Red Hat Enterprise Linux Developer Program, which helps developers derive maximum benefit from Red Hat Enterprise Linux. The Red Hat Enterprise Linux Developer Program is intended for end-user developers building custom applications, independent software vendors (ISVs), and value-added resellers (VARs) building portable applications, and system integrators customizing applications for customers including developer tools, subscriptions, support, and training.

Red Hat Enterprise Linux for Workstations

Another category of Red Hat Enterprise Linux subscriptions is for workstation. Red Hat Enterprise Linux Workstation should be considered where single-user use cases are indicated. This subscription is purchased per installed system. Consider the users' requirements when selecting subscriptions.

▸ Users of complex applications, especially graphics-intensive, such as are seen in digital animation, visual effects, computer-aided design, engineering, geological research.

▸ A front-end modeling system/interface for GPU-intensive workloads can be deployed on HPC clusters or supercomputers.

▸ Virtualized deployments in customer private cloud environments that use remote access or virtual desktop infrastructure (VDI) technology to allow end-users to use VM-based workstations.

▸ A host for one or four VMs (see SKU descriptions for specifics).

▸ For application developers, use Red Hat Enterprise Linux Developer Workstation (see above, "Development environment" section for more info).

Red Hat Enterprise Linux for Workstations is available in Premium, Standard, and Self-Support options for x86 architecture.

Table 2. Technical specifications for Red Hat Enterprise Linux for Workstations subscription

Technical specifications	Red Hat Enterprise Linux for Workstations
x86	Yes
Maximum physical CPUs (sockets)	two
Maximum memory	Unlimited
Maximum virtualized guests	one or four

Managing subscriptions

To manage your Red Hat subscriptions and take full advantage of the services and tools offered, your systems must be registered using Red Hat Subscription Management or its command-line interface, included in Red Hat Enterprise Linux. Red Hat offers services and tools to help you manage your Red Hat Enterprise Linux subscriptions, which include:

▸ **Red Hat Customer Portal.** Systems, whether physical or virtual, can be registered and connected with the Red Hat Customer Portal either directly or via a proxy. You can obtain the latest versions of our software, query the Red Hat Knowledgebase, browse product documentation, and gain access to the latest bug fixes, security errata, and feature enhancements.

▸ **Red Hat Subscription Management.** A customer-driven, end-to-end solution that provides tools for subscription status and management with Red Hat's system management tools. When you purchase a subscription to a product, Red Hat Subscription (RHSM) tracks which system(s) in your inventory are registered to the subscription. Registered systems are entitled to support services, as well as errata, patches, and upgrades from the Red Hat CDN.

▸ **Red Hat Insights** provides a key management service as part of the Red Hat Enterprise Linux subscription. It proactively analyzes the environment; identifies potential security, performance, availability, and stability risks; and includes remediation guidance. System administrators simply provide agent support and then gain the benefit of daily reports about potential issues in these areas. Red Hat Insights provides system administrators with the information they need to help minimize downtime and other issues.

▸ **Red Hat Satellite:** Red Hat Satellite provides patch management, provisioning, configuration management, and capabilities to make Red Hat Enterprise Linux systems more security-focused, operate more efficiently, and compliant with legal and organizational standards. Satellite also helps you manage your subscription inventory by providing fine-grained reporting on allocated and available subscriptions and their expiration dates. Red Hat Satellite is available with the purchase of Smart Management for all managed systems.

Renewing subscriptions

Red Hat subscriptions are valid for a duration specified in the contract your organization signs with Red Hat. Renewing on schedule is the only way to continue receiving the full benefit of your Red Hat subscriptions, including technical support, security patches, product upgrades, and full participation in an ecosystem of partners and experts.

Your account team will always be available to you and will be in touch over the duration of your subscription. At 90, 60, and 30 days prior to a subscription expiration, the person designated in the contract will receive email reminders from Red Hat. These reminders include instructions for renewing subscriptions. The method of renewal depends on how the subscriptions were purchased. If you believe your organization is not receiving emails or that the emails might be going to the wrong individual, contact Red Hat Customer Service at 1-888-REDHAT-1.

Subscription terms

This section summarizes some of the terms and conditions pertaining to Red Hat subscriptions described in Appendix 1 of the Red Hat Enterprise Agreement. Appendix 1 is the binding document, and nothing written in this guide supersedes the terms made in Appendix 1. See the current localized version: Red Hat Enterprise Agreements and Product Appendices. If you have any questions, contact your Red Hat account team.

System coverage

▸ Our agreement states that you must purchase subscriptions for every system and virtual instance in your organization where Red Hat Enterprise Linux is installed. For example, if you have Red Hat Enterprise Linux installed on five development machines and ten 2-socket production systems, you must purchase enough subscriptions to cover these machines, regardless of the version of Red Hat Enterprise Linux installed. If they are two-socket machines, then you must purchase five developer subscriptions and 10 subscriptions to cover the production systems. Your subscription entitles you to upgrade to the latest version at your convenience.

▸ You may migrate a subscription from one system to another system with similar characteristics without purchasing additional subscriptions as long as the total number of subscriptions still matches the total number of installed systems.

▸ You may migrate Red Hat Enterprise Linux for Server and related Add-On subscriptions back and forth from physical to virtual to cloud deployments without changing subscription terms, purchasing additional subscriptions, or notifying Red Hat. For example, if you have purchased a subscription for one socket-pair that you allocate to a physical machine, you can convert that socket-pair subscription to cover two virtual instances in a virtualized or cloud deployment. And you can then convert a two-instance subscription back into a socket-pair allocation.

▶ You may not migrate unaffiliated Red Hat Enterprise Linux for Server subscriptions off-site or to a cloud environment without obtaining permission from Red Hat. See Appendix 1 of your Red Hat Enterprise Agreement for more information.

Support services levels

▶ When you purchase a Red Hat subscription, you will be required to choose a level of support service. Developer support levels are Professional and Enterprise, and Production support levels are Self-support, Standard, and Premium. Red Hat Enterprise Linux Server Entry Level and Self-support are only available in some regions.

▶ Production support provides assistance with installation, application testing, usage, problem diagnosis, and bug fixes for software used for production purposes. It does not include assistance with code development, system design, network design, architectural design, optimizations, tuning recommendations, development or implementation of security rules or policies, third-party software made available with Red Hat software, supplementary channels, and preview technologies.

▶ You may purchase subscriptions at different support levels. For example, you might purchase subscriptions for business-impacting workloads with Premium support services and for less critical workloads with Standard support services. When making decisions on support levels, it is important to understand the impact of a system or systems being unavailable. For instance, a development server being unavailable may not affect customers immediately, but it may still have a significant impact on the business when the costs of idled developers and product delays are considered. You cannot use your higher-level support services to obtain support for systems to which you have allocated lower-level support services. For example, you may not call for support for a system with Standard support and request Premium support based on a different subscription.

▶ Add-Ons inherit the underlying SLA for the Red Hat Enterprise Linux subscription to which they are attached. For example, if the High Availability Add-On is attached to a Premium SLA subscription of Red Hat Enterprise Linux Server, it inherits the Premium SLA for High Availability.

▶ Developer support provides assistance with installation, usage, problem diagnosis, and bug fixes. It also includes advice on architecture, design, development, and prototyping of applications. It does not include assistance with software made available through supplementary channels and preview technologies.

Proper use of subscriptions and services

▶ Evaluation versions of Red Hat Enterprise Linux subscriptions may not be used beyond their term or for any purpose not explicitly defined in the evaluation terms and conditions.

▶ Subscriptions to software and support services are for internal use only. ("Internal" includes affiliates.) Subscriptions cannot be transferred to a third party.

▶ Subscriptions must be used for the use case that they are intended for. For example, you may not use a Red Hat Enterprise Linux Workstation subscription as a production server. You also may not seek production support by using a developer subscription.

Next steps

Once you have purchased your Red Hat Enterprise Linux subscriptions, your next steps will be to:

1. Register on the Red Hat Customer Portal.

2. Activate your subscriptions.

3. Attach your subscriptions.

4. Download your software.

Registering on the Red Hat Customer Portal

The first step in obtaining the complete value of your Red Hat subscriptions is to register on the Red Hat Customer Portal. Every member of your IT organization can be registered—there are no limitations on the number of registrants per account.

The Customer Portal is the gateway to your subscription management services and tools. There, you can activate, entitle, renew, manage, and report on your subscriptions. In addition to these services and tools, the Customer Portal has a knowledgebase and an extensive library of information resources that support users ranging from novices to experts.

Activating subscriptions

If you created a Red Hat account before ordering your subscriptions, you can skip this step. Your software will have been delivered to your account and you can begin the entitlement process.

If you create a Red Hat account after ordering your subscriptions, you will need to first activate your subscriptions. You must activate subscriptions corresponding to the software your team will install.

You can activate subscriptions in the Customer Portal by using tools available from the Subscription tab. From the subscription activation tool, you will enter the product activation codes (also referred to as subscription numbers) that you received in an email from Red Hat. Then, you can begin downloading software.

Attaching subscriptions

The final step is to register systems and attach subscriptions. The process for attaching subscriptions to systems varies depending on the Red Hat subscription management service or tool that you are using. See the appropriate Red Hat product documentation for instructions on attaching, managing, reporting on, and renewing your inventory of subscriptions.

Downloading software

Members of your team who have been granted permission to download software (by your organization's administrator) can begin downloading and installing software. By default, the administrator is the person who first created your Red Hat account. An administrator can then designate multiple administrators for the account. The software can be downloaded from Red Hat product downloads.

Red Hat Enterprise Linux products

Red Hat products are available on a subscription basis.

Product	Description
Red Hat Enterprise Linux for Workstations	Designed for users with advanced requirements working on more powerful hardware, Red Hat Enterprise Linux for Workstations is optimized for high-performance graphics, animation, and scientific activities. Red Hat Enterprise Linux for Workstations is an optimized OS for high-performance, graphically intensive workloads like animation, computer-aided design and computer-aided engineering (CAD/CAE), and scientific research. It also has options for hosting one or four virtual machines (VMs). It includes all the capabilities and applications that workstation users need, plus development tools for provisioning and administration.
Red Hat Enterprise Linux for High-Performance Computing	Red Hat Enterprise Linux for HPC offering is a special use case that cost-effectively addresses HPC clusters. It is based on standard Red Hat Enterprise Linux for Server components and uses standard installation and entitlement. An HPC cluster has many servers configured the same way, mostly running the same application as a single job across all servers in parallel—returning just one answer.
Red Hat Enterprise Linux for Real Time	Red Hat Enterprise Linux for Real Time is designed to be used for applications that demand guaranteed latency. Latency, or response time, is defined as the time between an event and system response and is generally measured in microseconds (μs).
Red Hat Enterprise Linux at the edge	Red Hat Enterprise Linux at the edge provides a consistent, flexible, and security-focused foundation that delivers customizable image generation, remote device update synchronization, and intelligent rollbacks that maximize the stability of applications and data processing at the deployment edge.

Developer offerings

Product	Description
Red Hat Enterprise Linux Developer Suite	The Red Hat Enterprise Linux Developer Suite subscription includes Red Hat Enterprise Linux Server, High Availability Add-On, Resilient Storage Add-On, Scalable File Systems Add-On, Extended Update Support Add-On, Red Hat Enterprise Smart Management, Red Hat Enterprise Linux for Real Time, Red Hat Software Collections, and the Red Hat Developer Toolset. This subscription is not available with developer support services (Professional and Enterprise) or with production support services (Standard and Premium). The contents of this subscription are for development purposes only and cannot be used in production environments. This subscription is not for new sales. See Red Hat Developer Subscription for individuals or teams.
Red Hat Enterprise Linux Developer Support, Professional and Enterprise	Red Hat Enterprise Linux Developer Support and Professional include a two-business-day response for developer-related incidents. It also includes 25 Developer Suite subscriptions and an unlimited number of support incidents. Developers provide Red Hat with a single designated point of contact for support calls. Enterprise support is available for this subscription, which includes a four-hour response to incident reports. This subscription is for development purposes only.

Product	Description
Red Hat Developer Subscription for individuals	Empower individual developers
	to develop on Red Hat Enterprise Linux and gain access to the full Red Hat portfolio. Members of the Red Hat Developer program qualify for a single subscription for an individual using up to 16 physical or virtual nodes for any purpose including development, test, production. Self-supported and deployable on major public cloud environments.
	This subscription is available self-service through the Red Hat Developer program—for individuals only, NOT for corporate accounts.
Red Hat Developer Subscription for teams	Access to Red Hat Enterprise Linux for development work. Provide tighter coupling between new application development and the transition to production environments. Empower teams across an organization to build, test,
	and run on the same platform. Used for development, test, continuous improvement (CI), not continuous delivery (CD) or production. Single organizational subscription for up to 25,000 physical or virtual developer nodes. Self-supported with options for paid support.
	This subscription is a no-cost subscription for Red Hat customers via Red Hat sales or partner account representative.

Red Hat Enterprise Linux

Platform offerings

Product	Description
Red Hat Enterprise Linux for Server	Red Hat Enterprise Linux for Server is a versatile platform that can be deployed on physical systems, as a guest on the most widely available hypervisors, or in a cloud environment. This subscription can be purchased on a socket-pair for use in a physical machine or instance-pair basis for use in a virtual machine. The subscriptions can be stacked. For example, two subscriptions may be stacked to satisfy the subscription requirements on a single four-socket physical server.
Red Hat Enterprise Linux for Server Entry Level, Self-support	Red Hat Enterprise Linux for Server Entry Level can be deployed only on physical systems. It is available only with self-support. This subscription cannot be stacked. Smart Management is the only Add-On that can be purchased for this subscription. This subscription is not intended for production environments and is not eligible for Red Hat Software Collections.
Red Hat Enterprise Linux for ARM	Red Hat Enterprise Linux Server for ARM, and Red Hat Enterprise Linux for Server for HPC for ARM, are a part of a Red Hat strategy to support multiple architectures including x86, IBM POWER, and Z. Red Hat Enterprise Linux for ARM delivers a high-performance, reliable and more security-focused platform, including a consistent application environment across physical, virtual and cloud deployments.
Red Hat Enterprise Linux for IBM Power Little Endian	This subscription is for deploying Red Hat Enterprise Linux on IBM Power systems to scale-out large amounts of data and cloud deployments, or adding lower-capacity servers to manage the cost of handling growing workloads as demand increases. Due to the nature of this class of servers, interested customers should consult with their Red Hat account team for specific guidance.

Product	Description
Red Hat Enterprise Linux for IBM Z and LinuxONE with Comprehensive Add-Ons	Red Hat Enterprise Linux for IBM Z and LinuxONE with Comprehensive Add-Ons is an offering that includes Red Hat Enterprise Linux High Availability Add-On for increased uptime, Red Hat Enterprise Linux Extended Update Support (EUS) Add-On, Smart Management to provide optimization and management of Red Hat Enterprise Linux, unlimited virtual guests, and premium support to help organizations manage Red Hat Enterprise Linux from physical machines to hybrid multiclouds. Due to the nature of this class of servers, interested customers should consult with their Red Hat account team for specific guidance.
Red Hat Enterprise Linux for SAP Solutions	Red Hat Enterprise Linux for SAP Solutions is a highly available foundation to promote uptime and availability of critical systems like SAP. Features like Red Hat Enterprise Linux High Availability solutions for SAP HANA® and SAP S/4HANA®, live kernel patching, and in-place upgrades are the foundation to achieving near-zero downtime for SAP production deployments. This subscription follows the same model as standard Red Hat Enterprise Linux. It is for customers who are required to operate SAP HANA underneath S/4HANA deployments. The value of the rich feature set includes: Red Hat Enterprise Linux High Availability Add-On solutions for SAP, Red Hat Insights, Smart Management, EUS, Red Hat Enterprise Linux Update Services for SAP Solutions (E4S), RHEL System Roles for SAP, and other software packages, e.g. compat-sap-c++ for running SAP HANA. The use cases for this SKU are for those that need to adopt Linux OS and move to SAP S/4HANA before 2027, have a desire to become less dependent on SAP technology and solutions, and want to include new, modern, innovative solutions into daily operations and increase competitiveness with agility.

Red Hat Enterprise Linux

Product	Description
Red Hat Enterprise Linux for Virtual Datacenters (VDC)	This subscription allows the deployment of unlimited Red Hat Enterprise Linux guests in virtualized environments on supported hypervisors such as Red Hat Virtualization, VMware, and Microsoft HyperV. This subscription does not include a physical entitlement for Red Hat Virtualization. When pooling Red Hat Enterprise Linux for Virtual Datacenters, you must purchase uniform SLAs for all hosts in a cluster, and all hosts in a cluster must be accounted for with a subscription. You may subscribe to a subset of a virtualization cluster if your hypervisor allows the ability to restrict and enforce Red Hat Enterprise Linux workloads running only on that subset of the hypervisors in the cluster.

Add-Ons

Note: *All Red Hat Enterprise Linux Add-Ons, with the exception of Smart Management, are available only with Standard or Premium subscriptions.*

Product	Description
Red Hat Enterprise Linux High Availability Add-On	The High Availability Add-On provides failover services between nodes within a cluster, making applications highly available. It supports up to 16 nodes and may be configured for most applications that use customizable agents and virtual guests. This subscription follows the same model as Red Hat Enterprise Linux.
Red Hat Enterprise Linux Resilient Storage Add-On	The Resilient Storage Add-On allows a clustered file system to access the same block storage device over a network. Providing consistent storage across a cluster of servers creates a pool of data available to each server in the group that is protected if any one server fails. The Resilient Storage Add-On includes the High Availability Add-On. This subscription follows the same model as Red Hat Enterprise Linux.

Product	Description
Extended Update Support Add-On	The Extended Update Support Add-On gives you the flexibility to decide when to take advantage of new features in Red Hat Enterprise Linux and new server hardware by extending the support period of a specific Red Hat Enterprise Linux minor release for up to 24 months after its general availability. It allows you to efficiently plan resource and deployment cycles based on internal requirements while maintaining system security. This subscription follows the same model as Red Hat Enterprise Linux. It is included at no additional cost in the Premium subscription for x86, Red Hat Enterprise Linux for IBM Z, and LinuxONE with Comprehensive Add-Ons. EUS can be purchased as an Add-On for Red Hat Enterprise Linux for Power subscriptions. EUS is not available for Red Hat Enterprise Linux Self-support subscriptions.
Extended Life Cycle Support	Extended Life Cycle Support (ELS) is an optional Add-On subscription for certain Red Hat Enterprise Linux subscriptions. Available during the extended life phase, ELS delivers certain critical-impact security fixes, selected urgent priority bug fixes, and troubleshooting for the last minor release of a given version of Red Hat Enterprise Linux. The ELS period runs for a minimum of 24 months beyond the Red Hat Enterprise Linux 10-year life cycle. You should plan to migrate off of a Red Hat Enterprise Linux major release by the end of the 10 years. ELS provides a brief, additional migration period. The ELS Add-On is available with Red Hat Enterprise Linux Premium and standard for IBM Z and the x86 architecture. It is not available for purchase with Red Hat Enterprise Linux Self-support subscriptions.

Management offerings

Product	Description
Red Hat Satellite Server	Red Hat Satellite Server is a systems management platform for efficiently managing Red Hat Enterprise Linux systems. It provides superior patch management, multisystem provisioning, configuration management, and fine-grained reporting capabilities, making sure that systems have hardened security and comply with various standards. Satellite Server subscriptions come with the purchase of Smart Management.
Red Hat Satellite Capsule Server	Red Hat Satellite Capsule Server is used in conjunction with Red Hat Satellite Server to provide you with additional bandwidth, federation of content, and the ability to cache content at a local level. Red Hat Satellite Capsule Server subscriptions come with the purchase of Smart Management.
Red Hat Smart Management	Smart Management is an infrastructure management solution designed to provision and maintain Red Hat Enterprise Linux infrastructure anywhere—physical, virtual, or in a cloud environment. Smart Management automates repetitive life cycle management tasks for Red Hat Enterprise Linux, keeping systems safeguarded, available, and compliant—increasing efficiency and reducing the total cost of ownership (TCO). The Smart Management subscription entitles the system to which it is applied to be managed by Red Hat Satellite and also entitles you to deploy up to 50 Satellite licenses or Satellite Capsule Servers inclusive of Red Hat Enterprise Linux for those servers.

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 develop cloud-native applications, integrate existing and new IT applications, and automate and manage complex environments. A trusted adviser to the Fortune 500, Red Hat provides award-winning support, training, and consulting services that bring the benefits of open innovation to any industry. Red Hat is a connective hub in a global network of enterprises, partners, and communities, helping organizations grow, transform, and prepare for the digital future.

f facebook.com/redhatinc
🐦 @RedHat
in linkedin.com/company/red-hat

North America	**Europe, Middle East, and Africa**	**Asia Pacific**	**Latin America**
1 888 REDHAT1	00800 7334 2835	+65 6490 4200	+54 11 4329 7300
www.redhat.com	europe@redhat.com	apac@redhat.com	info-latam@redhat.com

redhat.com
#F31929_0822