

SUBSCRIPTION GUIDE

# RED HAT ENTERPRISE LINUX SUBSCRIPTION GUIDE

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## INTRODUCTION

Red Hat® Enterprise Linux® powers the applications that run your business 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<sup>1</sup>, and a Red Hat Enterprise Linux subscription provides you direct access to and advocacy within the open source community, in addition to 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. Once you have purchased a subscription, the guide helps you get the entire value of that subscription. 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 & Engagement (CEE) and the many ways in which customers and users can benefit from their Red Hat subscriptions, including the service-level agreements (SLAs) for the support offerings.

## HOW YOUR I.T. ORGANIZATION BENEFITS FROM A RED HAT ENTERPRISE LINUX SUBSCRIPTION

In the traditional model of software purchase and delivery, companies can be locked into licenses where upgrades are costly, access to help is limited, and waits are long for the latest technology. By subscribing to software instead of buying licenses, you can expand or contract your software inventory as business requirements change, minimizing the risk of purchasing too much. A subscription model also allows you to purchase software as an operating expense rather than as a capital expenditure with a burdensome amortization schedule. With licenses, the entire cost is paid up front and value is derived over time. With subscriptions, you pay on an annual basis as you derive value, which many organizations find is a useful way to manage cash flow.

Red Hat pioneered the model that provides customers tested and quality-controlled features, updates, and upgrades in a low-cost, high-value subscription. A subscription to Red Hat Enterprise Linux provides you with direct access to open source innovation without the risk of experimentation.

### Access to technology

- **Regular upgrades and updates.** Included in the subscription are product enhancements, new features, new hardware certifications, bug fixes, and security patches.
- **The foundation for emerging technology.** Red Hat Enterprise Linux serves as the base for all Red Hat technologies, providing access to a trusted, curated, tested, and supported array of open source technologies.

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<sup>1</sup> Red Hat client data and Fortune 500 list, June 2018

### Access to experience and help

- **World-class technical support.** Included in the subscription are unlimited incident support calls with Linux experts. Two SLAs, Standard and Premium, are available so that you can select the response and coverage times that best support your organization.
- **Red Hat Customer Portal.** Red Hat provides an award-winning portal for accessing all of the benefits of your subscription, including subscription management, software delivery, critical issue notifications, an extensive knowledge base, expert communities, and case management.
- **Subscription management services.** Red Hat subscription management services and tools provide status information, clarify relationships between subscriptions and systems, and simplify IT inventory reporting.
- **Legal assurance.** The Red Hat Open Source Assurance program provides customers who are developing and deploying open source solutions with some level of protection from legal harm. For more information, see [https://www.redhat.com/legal/open\\_source\\_assurance\\_agreement.html](https://www.redhat.com/legal/open_source_assurance_agreement.html).

### Access to continuous security

**Security response.** Red Hat's industry-recognized security response process helps customers proactively address potential security issues in their Linux environments.

### Access to support your timelines

- **Long-term stability.** Red Hat Enterprise Linux products have a 10-year product life cycle with strict update policies that maintain application stability and compatibility—application programming interface (API) compatibility between minor releases and application binary interface (ABI) compatibility between major releases. See the Red Hat application compatibility guide (<https://access.redhat.com/articles/rhel-abi-compatibility>) for details.
- **Predictability.** Subscriptions are typically offered on an annual basis and include access to new versions of software at no additional cost. The subscription model results in no upfront license fees or hidden costs.

### Direct advocacy for your requirements

- **Leadership, influence, and contribution.**
  - Red Hat represents customers in front of hardware, software, and cloud partners, as well as the open source community.
  - Red Hat invests research and development resources with partners to make sure all the pieces fit together for you.

- **Assurances through certification.**
  - **Compliance regulations.** Red Hat certifies its solutions and provides resources to help you comply with a variety of government requirements, including Common Criteria EAL 4+ and Federal Information Processing Standard (FIPS) Publication 140-2. Red Hat also provides National Institute of Standards and Technology (NIST) validated content for Payment Card Industry Data Security Standard (PCI DSS) and Defense Information Systems Agency Security Technical Implementation Guides (DISA STIG) needs.
  - **Application, cloud, and hardware certifications.** Red Hat maintains relationships with thousands of software vendors, hardware vendors, and cloud and service providers to certify their technologies in your Red Hat environment.

## SUPPORT FOR THE PRODUCTION ENVIRONMENT

Red Hat customers benefit from a collaborative support relationship. 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. 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, where they will provide the first level of customer engagement. Development support is described in the “Development environment” section of this guide.

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.

TABLE 1. SERVICE-LEVEL AGREEMENTS FOR RED HAT ENTERPRISE LINUX SUBSCRIPTIONS

SERVICE	SELF-SUPPORT	STANDARD	PREMIUM
Hours of coverage	None	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	None	Unlimited	Unlimited
RESPONSE TIMES			
Severity	Standard	Premium	
	Initial and ongoing response	Initial response	Ongoing response
<b>Severity 1 (Urgent):</b> A problem that severely impacts 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 hour	1 hour	1 hour
<b>Severity 2 (High):</b> A problem in which the software is functioning but your use in a production environment is severely reduced. The situation is causing a high impact to portions of your business operations, and no procedural workaround exists.	4 business hours	2 hours	4 hours
<b>Severity 3 (Medium):</b> A problem that involves partial, non-critical loss of use of the software in a production environment or development environment. For production environments, there is a medium-to-low impact 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.	1 business day	4 business hours	8 business hours
<b>Severity 4 (Low):</b> 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 impact on your business or the performance or functionality of your system. For development environments, there is a medium-to-low impact on your business, but your business continues to function, including by using a procedural workaround.	2 business days	8 business hours	2 business days or as agreed

## GLOSSARY

**Guest:** An instance of the software running in a virtual machine, which in turn 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 multsocket machine. For example, the base subscription unit is a socket-pair. To entitle an 8-socket machine, you would purchase four socket-pair 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, container, blade, node, partition, appliance, or engine, as applicable.

**Virtual instance:** A virtual machine running on a hypervisor. When you deploy a guest operating system in a virtualized environment, you are responsible for securing the required license rights for any third-party operating system or other software that you use. In the Red Hat subscription model, a virtual instance is not associated with a physical system.

**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 purchasing 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. This model is best for provisioning to physical hardware or as virtual instances in the cloud. If you are deploying Red Hat Enterprise Linux in a virtual environment, your subscriptions are based on the number of virtual instance-pairs running the product. This model is best for low- and medium-density virtual environments.

The subscriptions that follow this model are:

- Red Hat Enterprise Linux Server.
- Red Hat Enterprise Linux Server Entry Level, Self-support.
- Red Hat Enterprise Linux Add-Ons.

### 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 subscriptions that follow the unlimited guest model are:

- Red Hat Cloud Infrastructure.
- 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 2-socket server. If you have a 4-socket server, you would need two Red Hat Enterprise Linux subscriptions. For an 8-socket machine, you would need four subscriptions, and so forth. In this way, your Red Hat Enterprise Linux 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. Of course, you would need to assign the Red Hat Enterprise Linux subscription to the new system.

### Repurposing

Subscription repurposing gives you another degree of flexibility. It lets you change a physical 2-socket Red Hat Enterprise Linux subscription into a 2-virtual-instance subscription without contacting Red Hat to adjust your terms. Repurposing virtual instance-pairs as physical socket-pairs is also possible. This allows you to convert your infrastructure from physical to virtual and have your Red Hat Enterprise Linux subscriptions convert along with you. The ability to repurpose 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—that is, you are running four or fewer guests per system. In reality, you likely will have a hybrid environment with various hypervisors and even a blend of high- and low-density environments. The section titled “Subscription scenarios and recommendations” 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 your answer was a physical environment, go to step 2. If your answer was a virtual environment, go to step 3.
2. You are purchasing subscriptions for a physical environment. How many systems do you have of each kind of socket configuration? Typical configurations are 1-, 2-, 4-, and 8-socket systems. (Single-processor systems should be counted as one socket-pair.)
  - (a) Count the number of 1-socket systems you have. Each of these must be entitled separately with a socket-pair subscription. That is, you cannot split a socket-pair subscription across two systems.
  - (b) Count the remainder of the sockets and divide by 2. Add the result to the number of 1-socket systems. This total is the number of subscriptions you will purchase to entitle your physical servers.
3. You are purchasing subscriptions for virtual instances. How many do you need?
  - (a) Divide the number of virtual instances by 2. This is the number of subscriptions you will purchase for the guests in your virtual environment.
4. Which add-ons do you want to purchase? The add-ons must match the counting method you used for the Red Hat Enterprise Linux Server subscriptions. For example, if your Red Hat Enterprise Linux Server subscription is based on socket-pairs, the Red Hat Enterprise Linux High Availability Add-On for that server also will be based on socket-pairs. The add-on subscriptions can be repurposed from socket-pairs to virtual instance-pairs, just like the server subscriptions can.
5. What support service level does your deployment require—Standard or Premium?

These worksheets present calculations for some simple deployments scenarios.

#### Sample worksheet 1: Provisioning physical layers

COUNTING METHOD	SYSTEMS	SOCKET-PAIRS	SUBSCRIPTIONS
Number of 1-socket systems	10	10	10 (1 per 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 2 for the number of subscriptions to purchase	10

### Sample worksheet 3: Setting up a virtual environment

Red Hat will support up to four concurrently running guests with the virtualization capabilities (based on the Kernel-based Virtual Machine hypervisor) supplied with Red Hat Enterprise Linux Server. If you are planning on entitling five or more Red Hat Enterprise Linux guests per socket-pair, we recommend purchasing subscriptions to Red Hat Enterprise Linux with Smart Virtualization or Red Hat OpenStack Platform. 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 (1 per system)
Number of 2-socket systems	10	10 (1 per socket-pair)
Number of 4-socket systems	2	4 (1 per socket-pair)
Number of 8-socket systems	2	8 (1 per socket-pair)
Number of subscriptions to purchase for hypervisors		32
COUNTING METHOD FOR GUESTS		
Number of guests		40 (virtual instances)
Divide number of guests by 2 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 real-world deployments like high availability.

#### 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 mission-critical production environment.

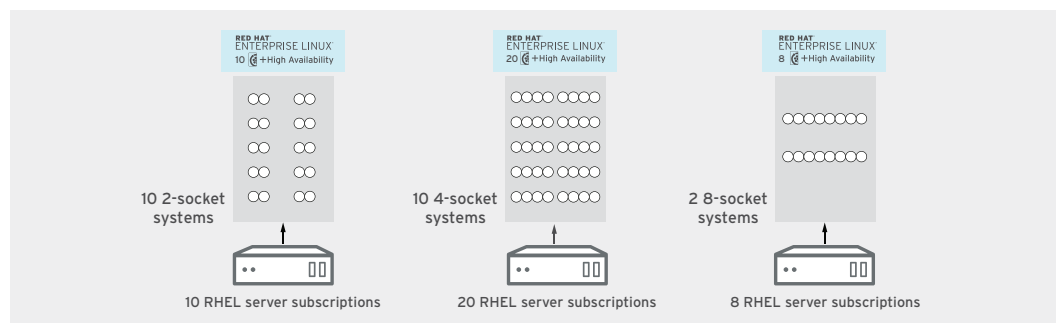


Figure 1. Subscriptions for a physical, mission-critical production environment

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

COUNTING METHOD	SOCKET-PAIRS
Number of sockets	76
Divide number of sockets by 2 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 Virtualization and that the guests are all Red Hat Enterprise Linux. This configuration is a low-density production environment, meaning that there are four or fewer guests running concurrently on a hypervisor.

Note: Red Hat will support up to four concurrently running guests on any supported operating system running on a hypervisor on Red Hat Enterprise Linux Server. If you want to run five or more guests per hypervisor, consider Red Hat Virtualization, which provides a supported hypervisor and management tools for large-scale virtualization.

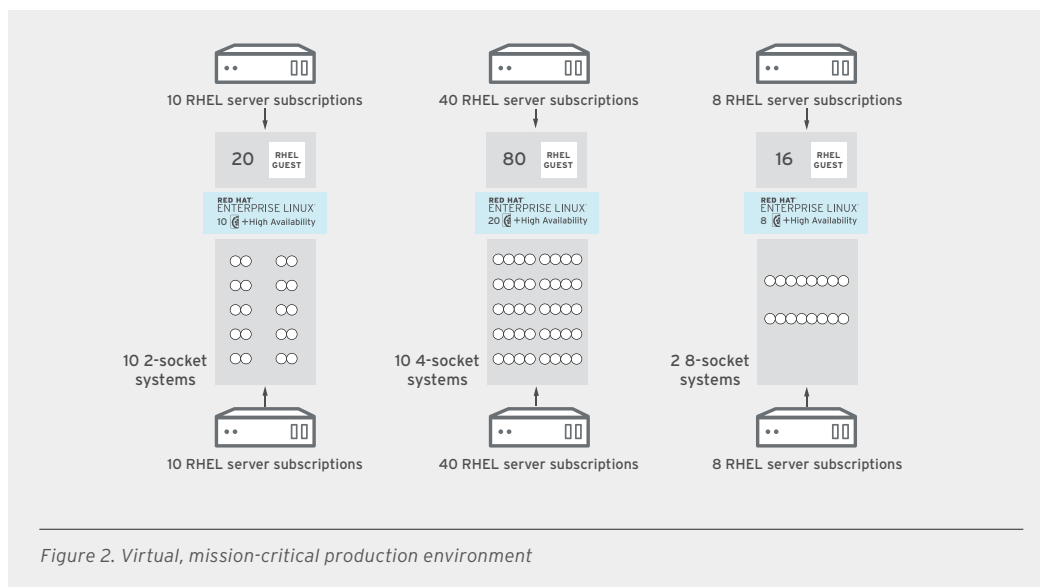


Figure 2. Virtual, mission-critical production environment

Figure 2 is the same as Figure 1 except for the added virtual guests. The assumption is that in a mission-critical environment, every node in this cluster must run as highly available. The virtualized production environment would have the same High Availability Add-Ons as a physical production environment. The following 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 number of guests by 2 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.

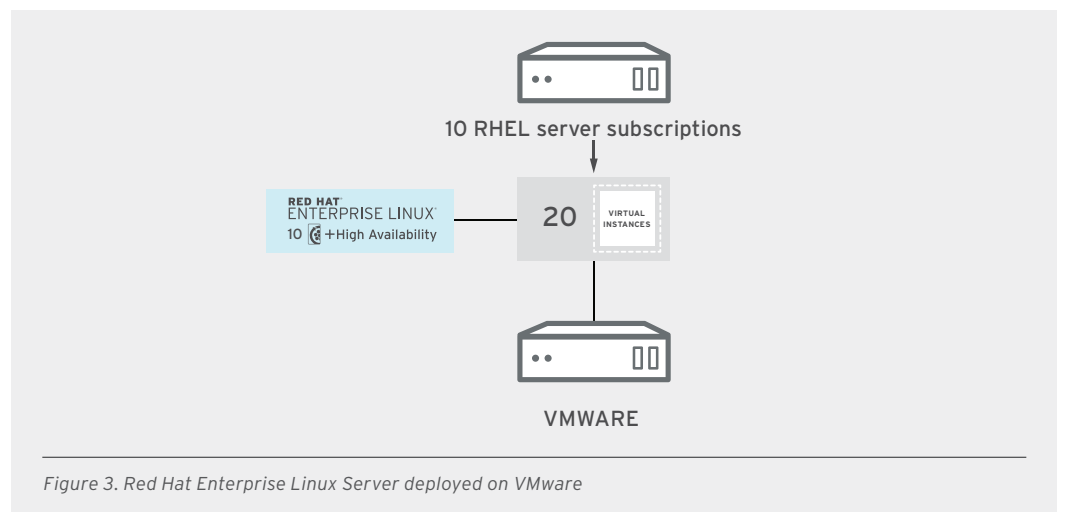


Figure 3. Red Hat Enterprise Linux Server deployed on VMware

The following 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 environments**

COUNTING METHOD FOR GUESTS	VIRTUAL INSTANCES	NOTES
Number of guests	20	
Divide number of guests by 2 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 the open hybrid cloud as an environment that includes physical, virtual, and private or public cloud deployments. The 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 are the same, and a private cloud component has been added in Figure 4.

For more information on the architecture and products the make up Red Hat’s open hybrid cloud portfolio, see <https://www.redhat.com/en/topics/cloud-computing/what-is-hybrid-cloud>.

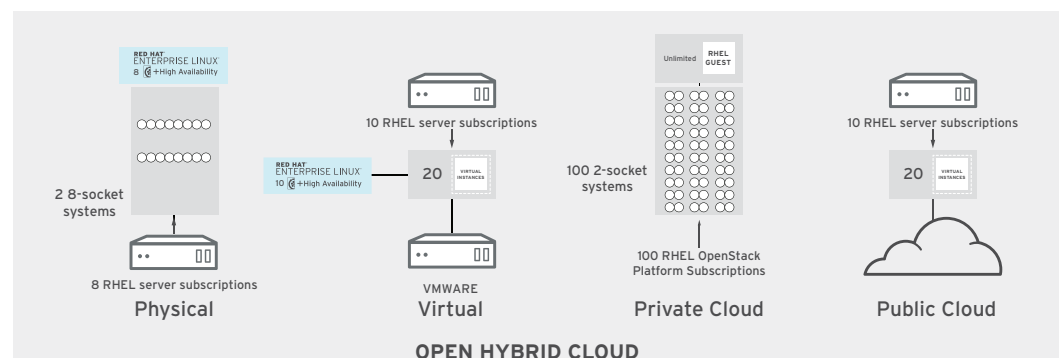


Figure 4. Open hybrid cloud production environment

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

**Sample worksheet 7: Calculating subscriptions for a private cloud**

COUNTING METHOD FOR PHYSICAL MACHINES	SOCKET-PAIRS	NOTES
Number of sockets	200	
Divide number of sockets by 2 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**

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)**

Here are the necessary subscriptions for an HPC environment.

**HPC use case**

- Head node: Use Red Hat Enterprise Linux for High-Performance Computing (HPC) head node subscription.
- Compute node: Use Red Hat Enterprise Linux for HPC compute node subscription.
- Compute nodes with graphics processing units (GPUs): Use Red Hat Enterprise Linux Standard subscription. (A special bid may be needed.)
- Graphics nodes with GPUs: Use Red Hat Enterprise Linux Standard subscription. (A special bid may be needed.)
- Login nodes: Use Red Hat Enterprise Linux Standard subscription.
- Storage nodes: Use Red Hat Enterprise Linux Standard subscription.

### Disaster recovery

Disaster recovery is an important component of production environment design. Red Hat Enterprise Linux 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 Content Delivery Network. 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 it is turned off until the disaster occurs or for periodic disaster recovery procedure tests. For Red Hat Enterprise Linux, this means that the customer is allowed to preload the bits as a courtesy. However, Red Hat Content Delivery Network cannot be used to update the system until the disaster happens. Then, the paid subscription on the failed machine transfers to the cold backup sever.

In this case, a customer does not need two subscriptions. The customer will consume only one subscription at any point in time. Red Hat will allow the customer to pre-provision the software bits onto the cold backup machine as a courtesy. If a customer is found to be running more units of Red Hat Enterprise Linux than the customer has subscribed for because the customer has found use for these pre-provisioned servers other than this cold backup use case, the customer is 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.

- 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 2 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 4 hours.
  - For an individual contributor or teams of fewer than 25 members, the Red Hat Enterprise Linux Developer Workstation offers the same tools and products as the Red Hat Enterprise Linux Developer Support subscription, but it can be purchased on an individual basis.

- 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. 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, the Red Hat Enterprise Linux Developer Program includes developer tools, subscriptions, support, and training.

#### **Desktops and workstations**

Another category of Red Hat Enterprise Linux subscriptions is for desktops and workstations. These subscriptions are purchased per installed system. Consider the users' requirements when selecting subscriptions.

- Users of business-productivity tools: Red Hat Enterprise Linux Desktop
- Users of complex applications, especially graphics-intensive: Red Hat Enterprise Linux Workstation
- Application developers: Red Hat Enterprise Linux Developer Workstation

These subscriptions can be purchased with one of two Developer support options: Professional, with a two-day response time; and Enterprise, with a four-hour response time.



Table 2. Technical specifications for Desktop and Workstation subscriptions

	RED HAT ENTERPRISE LINUX DESKTOP	RED HAT ENTERPRISE LINUX WORKSTATION	RED HAT ENTERPRISE LINUX DEVELOPER WORKSTATION
Desktop architecture support			
x86 (32, 64)	Yes	Yes	Yes
Desktop support limits as defined by Red Hat Enterprise Linux product subscription			
Maximum physical CPUs (sockets)	1	2	2
Maximum memory	8GB	Unlimited	Unlimited
Maximum virtualized guests	1	1 or 4	1 or 4

## MANAGING SUBSCRIPTIONS

Red Hat offers services and tools to help you manage your Red Hat Enterprise Linux subscriptions:

- **Red Hat Customer Portal.** Systems, whether physical or virtual, can be registered and connected with the Red Hat Customer Portal. Get the latest versions of the software, query the Red Hat Knowledgebase, browse product documentation, and gain access to the latest bug fixes, security errata, and feature enhancements.
- **Red Hat Satellite.** Red Hat Satellite provides patch management, provisioning, configuration management, and capabilities that ensure Red Hat Enterprise Linux systems are properly secured, operating efficiently, and in compliance with various standards. It also helps you manage your subscription inventory by providing fine-grained reporting on allocated and available subscriptions and their expiration dates. To obtain Red Hat Satellite, a separate purchase of the Red Hat Enterprise Linux Smart Management Add-On subscription is required for all managed systems.

To manage your Red Hat subscriptions and take full advantage of the services and tools offered, you must register your systems by using Red Hat Subscription Management (or its command-line interface) included in Red Hat Enterprise Linux. See the product documentation for step-by-step instructions. Once the system is registered, you will be able to attach a subscription to that system and start the downloading and installation process.

## RENEWING SUBSCRIPTIONS

Red Hat subscriptions are valid for a limited time according to the contract your organization signs with Red Hat. One-year subscriptions are most common. 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, is to renew on schedule.

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 as 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. If you have questions, contact your Red Hat salesperson.

### System coverage

- 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. If they are 2-socket machines, then you must purchase 5 developer subscriptions and 10 subscriptions to cover the production systems.
- You may migrate a subscription from one system to a 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 Server and related add-on subscriptions back and forth from physical to virtual to cloud deployments without having to change subscription terms, purchase additional subscriptions, or notify 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 non-Red Hat Enterprise Linux Server subscriptions off-site or to the cloud without obtaining written permission from Red Hat to do so. See Appendix 1 of your Red Hat Enterprise Agreement for more information.

### Support services levels

- When you purchase a Red Hat subscription, you choose a level of support services. Developer support levels are Professional and Enterprise, and Production support levels are Self-support (available only in some regions and on Red Hat Enterprise Linux Server Entry Level, Self-support), Standard, and Premium.
  - 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.
  - 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 mission-critical workloads with Premium support services and for less critical workloads with Standard support services. However, you cannot use your higher-level support services to get 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.

#### 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 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

After you purchase your Red Hat Enterprise Linux subscriptions, you must complete a few steps before your team can start using them and taking full advantage of the software and services included in your subscriptions:

1. Register on the Red Hat Customer Portal.
2. Activate subscriptions.
3. Attach subscriptions.
4. Download software.

#### Registering on the Red Hat Customer Portal

The first step to your organization getting 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 to 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 knowledge base and an extensive library of information resources that supports 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 your Red Hat account after ordering subscriptions, you will first activate your subscriptions. You must activate subscriptions that correspond to the software that your team will install. For example, if you have an activated subscription only for Red Hat Enterprise Linux Server, you will not be able to download Red Hat Enterprise Linux Desktop.

You 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 how to attach, manage, report on, and renew your inventory of subscriptions.

### **Downloading software**

Members of your team who have been granted permission to download software by your organization's administrator(s) 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.

## RED HAT ENTERPRISE LINUX PRODUCTS

Red Hat products are available on a subscription basis.

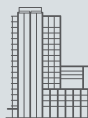
PRODUCT	DESCRIPTION
<b>Desktop</b>	
Red Hat Enterprise Linux Desktop	Red Hat Enterprise Linux Desktop enables users to be productive with a comprehensive set of leading user applications, including LibreOffice, a full office productivity suite with word processing, spreadsheet, presentation, drawing, and database applications. Using built-in KVM virtualization, users also can run Windows and legacy Windows applications on their Linux desktops. NOTE: Not for use on server hardware.
Red Hat Enterprise Linux Workstation	Designed for advanced Linux users working on more powerful systems, Red Hat Enterprise Linux Workstation provides the capabilities and applications included in the Red Hat Enterprise Linux Desktop client and more. Red Hat Enterprise Linux Workstation includes deployment tools to make provisioning and administration of Red Hat Enterprise Linux Desktop more efficient and cost-effective, and it is optimized for high-performance activities such as graphics, animation, and scientific computing.
Red Hat Enterprise Linux Developer Workstation	For software developers who need a flexible environment for code development and testing, Red Hat Enterprise Linux Developer Workstation combines all of the capabilities of Red Hat Enterprise Linux Workstation with the contents of the Red Hat Enterprise Linux Developer Suite for development and testing purposes.
<b>Developer</b>	
Red Hat Enterprise Linux Developer Suite	The Red Hat Enterprise Linux Developer Suite subscription includes Red Hat Enterprise Linux Server, High Availability Add-On, Load Balancer Add-On, Resilient Storage Add-On, Scalable File Systems Add-On, Extended Update Support Add-On, Red Hat Enterprise Linux Smart Management Add-On, 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.

PRODUCT	DESCRIPTION
Red Hat Enterprise Linux Developer Support, Professional	Red Hat Enterprise Linux Developer Support, Professional includes 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.
<b>Platform portfolio</b>	
Red Hat Enterprise Linux Server	Red Hat Enterprise Linux Server is a versatile platform that can be deployed on physical systems, as a guest on the most widely available hypervisors, or in the cloud. 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 4-socket physical server. Alternatively, two subscriptions may be stacked to satisfy four individual virtual machines.
Red Hat Enterprise Linux Server Entry Level, Self-support	Red Hat Enterprise Linux Server Entry Level can be deployed only on physical systems. It is available only with self-support. This subscription cannot be stacked. The Red Hat Enterprise Linux Smart Management Add-On 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 Power	Applications can be deployed by using the advanced hardware features in Power Systems and the consistency and flexibility of Red Hat Enterprise Linux.
Red Hat Enterprise Linux for IBM z Systems	Built on more than a decade of industry collaboration, Red Hat Enterprise Linux for IBM z Systems brings Linux applications to the mainframe.
Red Hat Enterprise Linux for SAP® Solutions	SAP deployments can be streamlined with an infrastructure software stack needed for the best possible operation of SAP applications.
Red Hat Enterprise Linux for Virtual Datacenters	Unlimited guests can be deployed in dense virtualized environments on supported hypervisors (Red Hat Virtualization, VMware, Microsoft Hyper-V). This subscription does not include a physical entitlement. 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.

PRODUCT	DESCRIPTION
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, as well as for virtual guests. This subscription can be purchased for socket-pairs or virtual instance-pairs.
Resilient Storage Add-On	The Resilient Storage Add-On enables a clustered file system to access the same block storage device over a network. By providing consistent storage across a cluster of servers, it 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 can be purchased for socket-pairs or virtual instance-pairs.
Load Balancer Add-On	The Load Balancer Add-On provides redundancy for web serving, databases, networking, and storage to maximize throughput, decrease response time, and increase reliability and uptime. By creating a virtual address that can be directed to a real server for load balancing or traffic shaping, it allows administrators to quickly add or remove servers or change balancing algorithms across physical, virtual, and cloud instances by using a browser-based graphical user interface (GUI). This subscription can be purchased for socket-pairs or virtual instance-pairs.
Scalable File System Add-On	The Scalable File System Add-On provides support for file systems that are up to 100 terabytes in size, making it one of the highest performing file systems on large systems with enterprise workloads. This add-on allows for the use of the XFS® file system, which in addition to supporting very large files and file systems on a single host, performs well on smaller systems running multi-threaded parallel input/output (I/O) workloads. This subscription can be purchased for socket-pairs or virtual instance-pairs.
Extended Update Support Add-On	The Extended Update Support Add-On gives customers 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 lets customers efficiently plan resource and deployment cycles based on internal requirements while maintaining system security. This subscription can be purchased for socket-pairs or virtual instance-pairs. It is included at no additional cost in the Premium subscription.

SUBSCRIPTION GUIDE Red Hat Enterprise Linux

PRODUCT	DESCRIPTION
Red Hat Enterprise Linux Smart Management Add-On	The Smart Management Add-On provides access to Red Hat Satellite and Red Hat Insights. It is required to reside on each managed system. This subscription can be purchased for socket-pairs or virtual instance-pairs.
<b>Red Hat Systems Management Platform</b>	
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, ensuring that systems are properly secured and in compliance with various standards. Satellite Server subscriptions come with the purchase of the Red Hat Enterprise Linux Smart Management Add-On.
Red Hat Satellite Capsule Server	Red Hat Satellite Capsule Server is used in conjunction with Red Hat Satellite Server to provide customers 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 the Red Hat Enterprise Linux Smart Management Add-On.



**ABOUT RED HAT**

Red Hat is the world's leading provider of open source software solutions, using a community-powered approach to provide reliable and high-performing cloud, Linux, middleware, storage, and virtualization technologies. Red Hat also offers award-winning support, training, and consulting services. As a connective hub in a global network of enterprises, partners, and open source communities, Red Hat helps create relevant, innovative technologies that liberate resources for growth and prepare customers for the future of IT.



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