



Licensing Guide – Red Hat



An introduction to Red Hat

Red Hat Licensing. The term itself is a bit of a misnomer as Red Hat don't sell licenses, rather they sell subscriptions. But many of the methods of licensing perpetual software still apply to subscriptions, and by the end of this course you will be familiar with the metrics and subscription options that Red Hat offers.

Red Hat Products

Red Hat products fall under various categories. It is important to understand each of these categories as many of them need require different licensing approaches.

Linux Platforms

The most popular of the Linux platforms is Enterprise Linux, usually referred to as RHEL.

Middleware

Includes the JBOSS Application server, Data Grid, Fuse, and Decision Manager amongst many others. Middleware is software that provides common services and capabilities to applications. It acts like the connective tissue between applications, data, and users.

Virtualization Platform

Red Hat offer two platforms; Virtualization and Hyperconverged Infrastructure. Virtualization is technology that allows you to create multiple simulated environments or dedicated resources from a single, physical hardware system.

Cloud Computing

Cloud computing is the act of running workloads within clouds—which are IT environments that abstract, pool, and share scalable resources across a network. A number of Red Hat products can be utilized both in the cloud and on-premise, while some are only available in the cloud.

Subscription Metrics

As with perpetual licensing, methods by which usage is measured for Red Hat subscriptions are varied. This section will explain the metrics and how they are applied to the subscription model.

Socket-pair

This is how RHEL, in particular, is best licensed in a physical environment. Put simply, a socket-pair license is required for 2 CPUs in your physical environment. For example, if you have a total of 48 CPUs you would require 24 socket-pair licenses. This model can also be used to license virtual instances in the cloud or heavily virtualized environments.

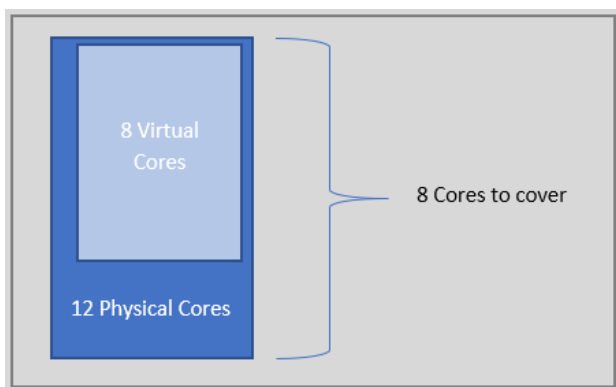
Virtual Instance Pairs

This model is best for low and medium-density virtualized environments. Subscriptions here are based on the number of instance-pairs running the product. For example, 16 VMs will require 8 subscriptions.

Cores

Products such as JBOSS are licensed by processor cores. They are based on the lesser of the total virtual cores in use across the virtual machines or the number of physical cores in the server.

Example: a server with 12 Physical cores but only 8 allocated to VMs would require 8 core subscriptions:



2-Cores

Similar to the concept above, but a single license covers 2 cores. This licensing model is used for the OpenShift Container platform and is based on the number of logical cores on the CPUs in the system where OpenShift runs. This model is used for both virtual and physical infrastructures.

Please note that logical cores in this instance does not include hyperthreading. A 2-core hyperthreaded Intel chip may display 4 cores, for example, but only one 2-core license is required.

Systems that require an odd number of cores will need to use a full 2-core subscription. For example, a system that is calculated to require only 1 core will end up using a full 2-core subscription once it is registered and subscribed.

User

Certain subscriptions, such as a Red Hat developer subscription, are based on 'users'. Simply put, one user subscription covers one individual.

Assigning Subscriptions

Stacking

Stacking gives you the flexibility to aggregate Red Hat subscriptions to accommodate any size physical server. The base Red Hat Enterprise Linux model, for example, 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. This method can also be used for the core and 2-core metrics.

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.

Subscription Support Details

With Red Hat subscriptions, there are no license or upgrade fees. And Red Hat doesn't charge additional maintenance fees, per-incident support fees, or user access fees. This model means there are no upfront costs that lose value over time. You only pay for what you're using, meaning software isn't sitting there unused. Subscription comes with a number of benefits, including:

Ongoing delivery

- Patches
- Bug fixes
- Updates
- Upgrades

Technical support

- 24/7 availability
- Unlimited Incidents
- Specialty-based routing
- Multi-vendor case ownership
- Multi-Channel

Commitments

- Hardware certifications
- Software certifications
- Cloud Provider certifications
- Software assurance

Expertise

- Security Response Team (SRT)
- Customer Portal
- Knowledgebase
- Access Labs
- Training Curriculum

Red Hat products are provided on a per-instance or per-installation subscription basis, which gives customers access to all subscription benefits during the subscription term. This means that while customers have an active subscription for a Red Hat product, they must maintain subscriptions for each and every instance or installation of Red Hat software being used in their environment.

When working out subscription requirements you count the number of resources installed with or executing a Red Hat software or product and apply a subscription to each instance. By maintaining this one-to-one active relationship with Red Hat, customers are able to distribute the benefits throughout their entire organization.

This is what some call the 'all or nothing rule'. It means that within a product family, you cannot pick and choose which installations are covered with active Subscription Services, i.e. if you have 19 JBOSS instances, you either have to purchase 0 subscriptions or 19.

Support Levels

With many Red Hat products, including RHEL, there are 3 levels of support for Production environments:

- Self-Support
- Standard
- Premium

Only Standard and Premium are available for JBOSS subscriptions.

It is important to note that support levels must match for each family of products. In other words, you can't have Premium support for some instances of RHEL and Standard support for others.

Environments

Licensing requirements can vary depending on the environment and how it is set up.

Development:

For RHEL, when there are teams of 25 or more, there is Red Hat Enterprise Developer. This comes with 2 support variants:

- Professional = Response time of 2 business days
- Enterprise = Response time of 4 hours

For smaller teams, including individual developers, there is Red Hat Developer Workstation. If “self-support” isn’t sufficient, Professional or Enterprise support can be added.

When it comes to JBOSS, development environments are not required to be covered. Instead, every 16 cores of subscription purchased for other parts of the business allow use by up to 25 developers. Also, all subscriptions include development use for ALL products in the JBOSS Middleware portfolio, although support is only provided for the subscribed product.

Test/ QA/ Pre-Prod/ UAT

Subscriptions are required for these environments.

Disaster Recovery

Hot

The server is on and ready to go – such as within a failover cluster. In this case, the backup server must be fully covered with subscriptions – just as the production server. All servers must be covered with subscriptions of the same configuration and support SLA.

Warm

Here, the server is periodically (no more than every 60 days) turned on to receive backups and updates. Warm backups are used in scenarios such as:

- Mirroring
- Replication
- Log-shipping

All servers must be covered with subscriptions of the same configuration and support however, the warm server subscriptions are 50% of the production subscription costs.

Cold

A cold backup server has the required software installed but is then turned off until the event of a disaster, or for periodic procedure tests. Red Hat do not allow you to apply updates to the installed software until the backup server moves into production. As the 2 servers are never running simultaneously, you do not need to acquire subscriptions for Cold backup servers.

Summary

Although Red Hat licensing may seem complex at first, the rules are consistent and are meant to be easy to interpret. Below are the important take-aways from this course:

- Red Hat offers subscriptions and not perpetual licences.
- Subscriptions are usually based upon the sockets or cores consumed by the server on which the product is installed, or they are based on instances of the installed product.
- Subscriptions can be 'stacked' to cover larger servers
- Subscriptions can be changed (2-socket to 2-virtual instance, for example) to suit the customer's needs, without contacting Red Hat first.
- There are two or three support levels depending on the customer's needs.
- Support levels must match for each product set.
- Development is usually licensed by the number of developers and is sometimes included in the cost of production licences.
- Most other environments require licensing, but certain DR scenarios do not.

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