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MIDDLEWARE

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TECHNOLOGY DETAIL

SUBSCRIPTION GUIDE FOR RED HAT JBOSS MIDDLEWARE

A guide to understanding the flexible consumption model for Red Hat's middleware portfolio

RED HAT JBOSS MIDDLEWARE SUBSCRIPTIONS

Software subscriptions for Red Hat® JBoss® Middleware products deliver value throughout the entire subscription period. Features and benefits of a Red Hat JBoss Middleware subscription include:

- **Predictability.** Subscriptions are offered on an annual basis and include access to new versions at no additional cost, so there are no large upfront license fees or hidden costs.
- **Integrated and certified enterprise platforms.** You have access to enterprise open source middleware platforms, in source and binary forms, along with enterprise product documentation specific to each product release.
- **Regular upgrades and updates.** These include enhancements, new features, new platform certifications, and access to the latest defect and security fixes.
- **Security response.** Subscriptions include Red Hat's industry-recognized security response process to help customers proactively address potential security issues in their environments.
- **Long-term stability.** Each Red Hat JBoss Middleware product has a defined multi-year product life cycle with strict update policies that maintain long-term application stability and compatibility.
- **World-class technical support.** Open source middleware experts provide unlimited incident support, with coverage up to 24x7 with one-hour response time for critical issues.
- **Red Hat Customer Portal access.** This is a single portal for accessing all of the benefits of a Red Hat subscription, including enterprise software delivery, product updates, critical issue notifications, knowledge base access, and case management.
- **Partner certifications.** Deploy solutions with confidence that your enterprise middleware is fully certified by leading Red Hat independent software vendor (ISV) partners.
- **Legal assurance.** The Red Hat Open Source Assurance program safeguards customers who are developing and deploying open source solutions from legal harm.

This guide will give you insight into the flexible consumption model for Red Hat JBoss Middleware portfolio subscriptions.

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RED HAT JBOSS MIDDLEWARE SUBSCRIPTIONS ARE CUSTOMER-FRIENDLY AND FLEXIBLE

- Subscriptions consumed in core bands
- Virtualization friendly
- Cores of all processor types treated the same
- Technical support from the source
- Buy one product, get development use for all

1. SUBSCRIPTION SIZING GUIDELINES

Subscriptions to Red Hat JBoss Middleware products are provided in a virtualization-friendly model, consumed in increments of 16 and/or 64 processor core bands, and backed by a choice of enterprise service levels that support any type of mission-critical deployment.

Key features of this consumption model include:

- Processor cores can be virtual or physical, making them ideally suited for the growing trend toward virtualizing middleware workloads.
- Customers are **free to choose the types of processor cores** that make sense for their environments; different types of processor **cores are treated the same**.
- **Technical support covers issues across the entire application life cycle**, from development to deployment management, across any supported environment.
- A subscription for any individual Red Hat JBoss Middleware product includes **development use for all of the products** in the Red Hat JBoss Middleware portfolio.
- Red Hat's subscription model for Red Hat JBoss Middleware provides customers with a **simple and easy way** to consume their enterprise middleware software.

The subscription sizing guidelines covered in this guide apply to the following Red Hat JBoss Middleware products:

- Red Hat JBoss Enterprise Application Platform
- Red Hat JBoss Web Server
- Red Hat JBoss Data Grid
- Red Hat JBoss Portal
- Red Hat JBoss A-MQ
- Red Hat JBoss Fuse
- Red Hat JBoss Fuse Service Works
- Red Hat JBoss Data Virtualization
- Red Hat JBoss BRMS
- Red Hat JBoss BPM Suite
- Red Hat JBoss Operations Network

While certain Red Hat JBoss Middleware products are used throughout this guide to help illustrate a sizing example, the subscription sizing guidelines covered in the document apply to all products listed above.

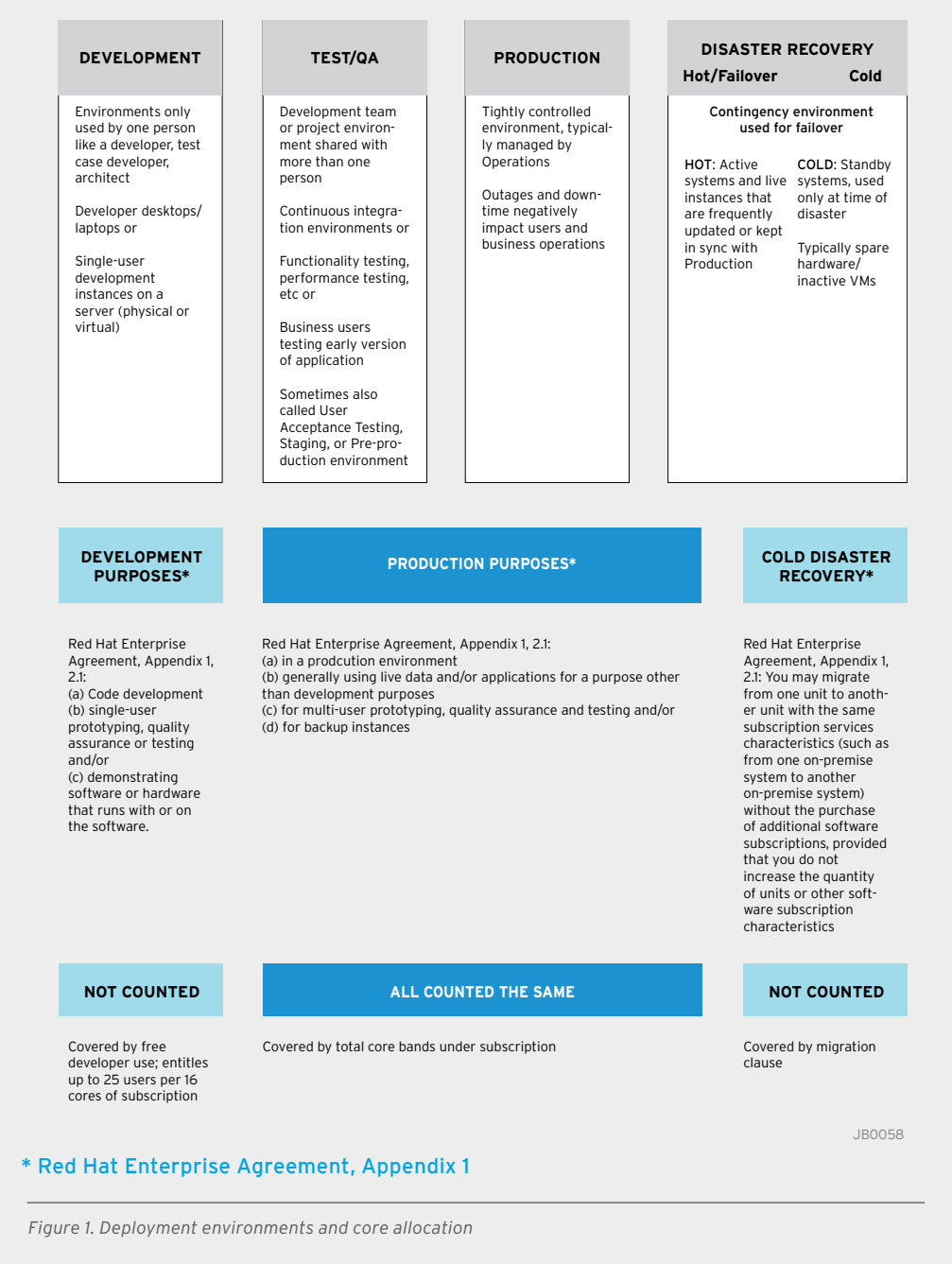
1.1. SUBSCRIPTION ALLOCATION

PROCESSOR CORE ALLOCATION ACROSS DIFFERENT ENVIRONMENTS

The following chart illustrates the different types of deployment environments and how the total cores under subscription are allocated across them.

SUBSCRIPTION CORE ALLOCATION:

- Production, test, hot disaster recovery/failover cores are counted
- Cold disaster recovery cores are not counted
- Development entitlements included (25 users per 16 cores)



* Red Hat Enterprise Agreement, Appendix 1

Figure 1. Deployment environments and core allocation

For each Red Hat JBoss Middleware product deployed, the total processor cores under the subscription can be allocated across any of the following three environments.

Production: Usually a tightly controlled environment, often managed by a production operations team. If downtime or a system outage were to occur, business users and customers are typically negatively impacted or unproductive or experience a loss of system functionality.

Test/QA: The environment where IT teams typically conduct integration testing, functionality, performance, and scalability testing, and where users might be testing or piloting pre-production versions of the system. Test environments are also sometimes referred to as quality assurance (QA), continuous integration platform, staging, pre-production, or user acceptance testing (UAT) environments.

Hot or warm disaster recovery or failover: An environment that typically mirrors the production environment and is used to handle or offload system traffic that has been moved over or is shared with the production environment. In this environment, the Red Hat JBoss Middleware product is actively running and able to readily accept system traffic in case of failover.

For subscription sizing purposes, as long as the total cores for a given Red Hat JBoss Middleware product do not exceed the amount under subscription, customers can allocate any of these cores across any of their production, test/QA, or hot or warm disaster recovery or failover environments.

COLD DISASTER RECOVERY

Subscriptions for Red Hat JBoss Middleware products can be used to support and test cold disaster recovery systems. "Cold" disaster recovery refers to systems where a Red Hat JBoss Middleware product may be installed for infrequent (e.g., annual or quarterly) disaster recovery testing and is not actively taking on live system traffic. Cold disaster recovery includes inactive virtual machine images that are only started in a failover situation.

Because a production system is offline at the time of disaster, customers can simply reallocate the necessary number of processor cores already under subscription to support their cold disaster recovery systems (temporarily making these cold systems actually production systems during the disaster recovery process).

DEVELOPER USE

Subscribers to any individual Red Hat JBoss Middleware product have access to use all of the products in the Red Hat JBoss Middleware portfolio for development use.

Development use can be on a variety of environments, such as a server, laptop, and workstation, and is provided for up to 25 users with every 16 cores of a Red Hat JBoss Middleware product under subscription.

WHAT DOES "DEVELOPER USE" MEAN?

- 25 development users per 16 cores included
- Buy one product, get access to ALL for development use
- Support is for the subscribed product only

Products in the Red Hat JBoss Middleware portfolio that are provided for development use include:

- Red Hat JBoss Enterprise Application Platform
- Red Hat JBoss Web Server
- Red Hat JBoss Data Grid
- Red Hat JBoss Portal
- Red Hat JBoss A-MQ
- Red Hat JBoss Fuse
- Red Hat JBoss Fuse Service Works
- Red Hat JBoss Data Virtualization
- Red Hat JBoss BRMS
- Red Hat JBoss BPM Suite
- Red Hat JBoss Operations Network

VIRTUALIZATION-FRIENDLY:

- Cores can be physical or virtual
- Only pay for what you use—the lesser of physical or virtual cores

1.2. DEPLOYMENT TYPES

Red Hat JBoss Middleware subscriptions are extremely flexible. An individual product subscription can be deployed across a variety of different virtual or physical operating environments and hardware types.

VIRTUAL DEPLOYMENTS

With the growing trend toward virtualization, subscriptions for Red Hat JBoss Middleware provide a virtualization-friendly model that allows customers to take full advantage of all of the benefits of using server virtualization technology.

When deploying in a virtual environment, users often pool multiple servers together and use virtualization software like Red Hat Enterprise Virtualization, VMware products, or Microsoft Hyper-V to share these pooled server resources across numerous guest instances. Virtualization users then typically size these guest instances using an allocation based on virtual processor cores. Often, users will assign a subset of their total physical processing capacities to the virtual guest instances assigned to run Red Hat JBoss Middleware.

When using virtualization software on a supported configuration, only the virtual processor cores allocated to the Red Hat JBoss Middleware deployments are counted; in some cases, this may be fewer than the total number of physical number of cores.

Example: Virtualizing a single six-core processor and allocating only four of the six cores to guest instances containing the Red Hat JBoss Middleware product would count as four cores.

PHYSICAL DEPLOYMENTS

When deploying a Red Hat JBoss Middleware product directly onto physical servers in a non-virtualized way, the total number of processor cores on those servers is counted.

Example: Deploying a Red Hat JBoss Middleware product on two four-core processors would count as eight cores.

When Red Hat JBoss Middleware is deployed on a physical server using operating system partitioning, only the total number of physical cores assigned to the operating system partition containing Red Hat JBoss Middleware is counted.

Example: An eight-core physical server is partitioned into two equal partitions, each allocated four processor cores. A Red Hat JBoss Middleware product is deployed to only one of these partitions. Only the cores allocated to the partition containing Red Hat JBoss Middleware are counted (four processor cores in this example).

For each Red Hat JBoss Middleware product deployment, the lesser of either the total sum of virtual cores or the total sum of the physical cores allocated to the Red Hat JBoss Middleware product is counted.

1.3. SUBSCRIPTION SERVICE-LEVEL AGREEMENTS

SERVICE LEVELS

Red Hat JBoss Middleware subscriptions are offered with a choice of either Standard or Premium service-level agreements (SLAs). Support SLAs apply only to technical support issues concerning the Red Hat JBoss Middleware product under subscription.

The Standard SLA provides coverage during normal business hours, whereas the Premium SLA expands this coverage to include 24x7 support for critical issues. For any Red Hat JBoss Middleware subscription, different SLA types can be mixed and matched across any type of operating environment.

SUBSCRIPTION SERVICE-LEVEL AGREEMENTS

SLA OPTION	STANDARD	PREMIUM
Hours of coverage	Standard business hours	24x7 for severity 1 and 2
Support channel	Web and phone	Web and phone
Number of cases	Unlimited	Unlimited
Software maintenance	Via Red Hat Customer Portal	Via Red Hat Customer Portal

CASE SEVERITY LEVELS

A Red Hat customer raising a technical support issue defines the initial severity level of that issue. These severity levels provide Red Hat customers with a common nomenclature to use when assessing the importance and impact of a technical support issue. Both Standard and Premium SLAs use the same four severity levels and definitions, which range from urgent priority to low priority. Severity levels also may differ for production or development issues. For example, all four severity levels apply to production-related issues, whereas only severity 3 and 4 apply to development-related issues.

SEVERITY LEVEL DEFINITIONS

Severity 1	**Urgent**: A problem that severely impacts your use of the software for production purposes (e.g., loss of production data, production systems not functioning). The situation halts your business operations and no procedural workaround exists.
Severity 2	**High**: A problem in which the software is functioning but your use of it for production purposes is severely reduced. For production purposes, the situation is causing a high impact to portions of your business operations and no procedural workaround exists.
Severity 3	**Medium**: A problem that involves partial, non-critical loss of use of the software for production purposes or development purposes. For product purposes, there is a medium-to-low impact on your business, but your business continues to function (by perhaps using a procedural workaround). For development purposes, 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 purposes, there is low-to-no impact on yourbusiness or the performance or functionality of your system. For development purposes, there is a medium-to-low impact on your business, but your business continues to function (by perhaps using a procedural workaround).

Both Standard and Premium SLAs include initial and ongoing update response times that suit the needs of any mission-critical application. Response times differ depending on the SLA and severity level of the issue raised.

RESPONSE TIMES BY SERVICE LEVEL

	STANDARD	PREMIUM	
Severity level	Initial response	Initial response	Ongoing response
Severity 1	1 business hour	1 hour	1 hour or as agreed
Severity 2	4 business hours	2 hours	4 hours or as agreed
Severity 3	1 business day	4 business hours	8 business hours or as agreed
Severity 4	2 business days	8 business hours	2 business days or as agreed

1.4. SUPPORT CONTACTS

Each Red Hat JBoss Middleware product subscription provides each customer with the ability to designate a set number of named contact(s) within his or her organization to be the primary interface with Red Hat technical support staff. For each Red Hat JBoss Middleware product under subscription, the subscriber can designate a number of named customer contacts depending on the number of cores purchased per the below table (each additional 32 cores adds two contacts).

INCLUDED SUPPORT CONTACTS

NUMBER OF CORES INCLUDED IN RED HAT JBOSS MIDDLEWARE SUBSCRIPTIONS	SUPPORT CONTACTS
1 to 32	2
33 to 64	4
65 to 96	6
97 to 128	8
129 to 160	10
161 to 192	12

Additional named support contacts can be added to any Red Hat JBoss Middleware subscription. The SLA type for the additional support contact must match the corresponding SLA for the product under subscription.

Designated support contacts can raise technical support issues and questions for the product under subscription. Issues and questions might include inquires into common product configurations, development best practices, identification and workarounds for potential product defects, recommended settings for production use, operational management procedures, feature requests, and many other product-related topics.

2. SUBSCRIPTION SIZING EXAMPLES

The following examples are included to help Red Hat JBoss Middleware subscribers size their deployments appropriately. While many examples use Red Hat JBoss Enterprise Application Platform (JBoss EAP) for illustrative purposes, these examples apply to any Red Hat JBoss Middleware product.

2.1. PHYSICAL, NON-VIRTUAL SYSTEMS

When deploying Red Hat JBoss Middleware in a physical, non-virtualized environment, the total number of physical cores are counted.

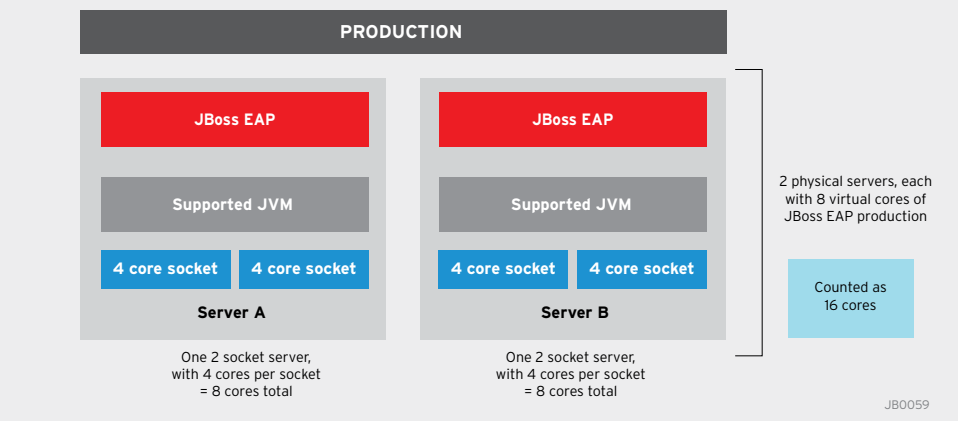


Figure 2: Example of physical, non-virtual deployment

2.2. VIRTUAL DEPLOYMENT

With Red Hat JBoss Middleware subscriptions, cores can be either physical processor cores or virtual processor cores. When using server virtualization software, the total virtual cores assigned to the Red Hat JBoss Middleware product are counted. In many cases, this may be less than the total number of physical cores available to the server virtualization software.

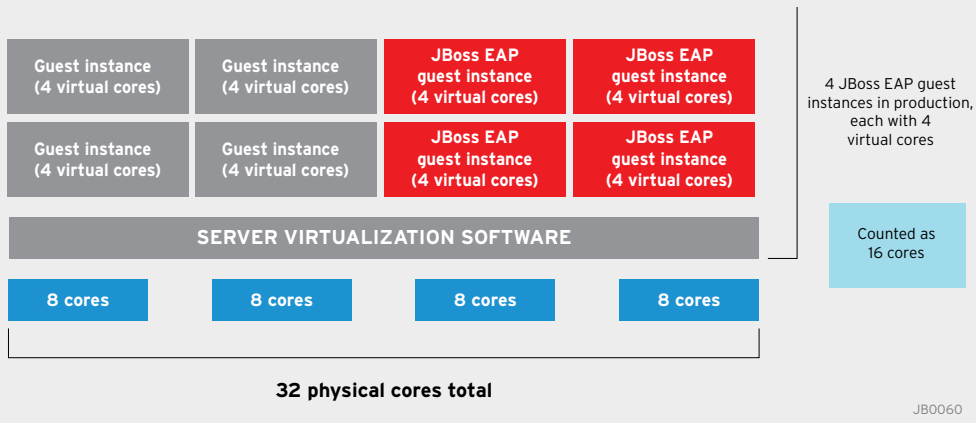


Figure 3. Virtual deployment

2.3. MIXED PHYSICAL AND VIRTUAL DEPLOYMENT

When deploying Red Hat JBoss Middleware in mixed environments, where some deployments are physical and other deployments of that same product are virtual, cores across both environments are counted.

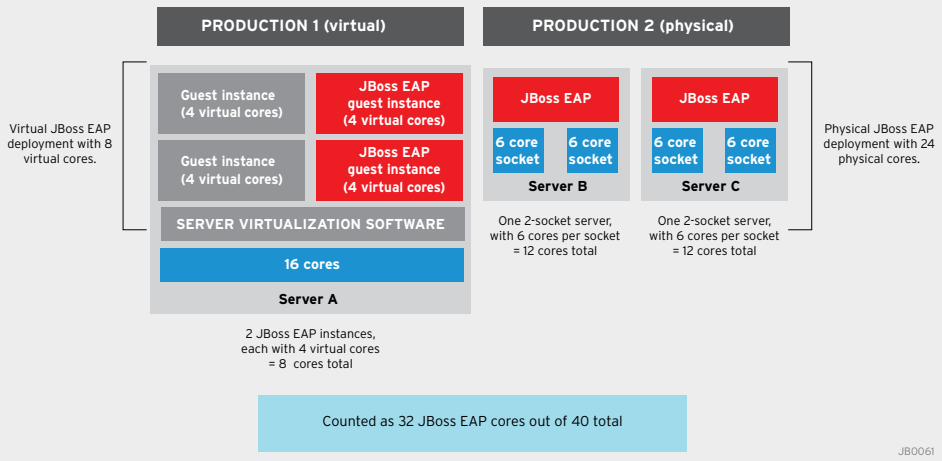


Figure 4. Mixed physical and virtual deployments

2.4. MULTIPLE RED HAT JBOSS MIDDLEWARE PRODUCT DEPLOYMENTS

When multiple Red Hat JBoss Middleware products are deployed, whether they exist on the same server or on different servers, each product are sized separately.

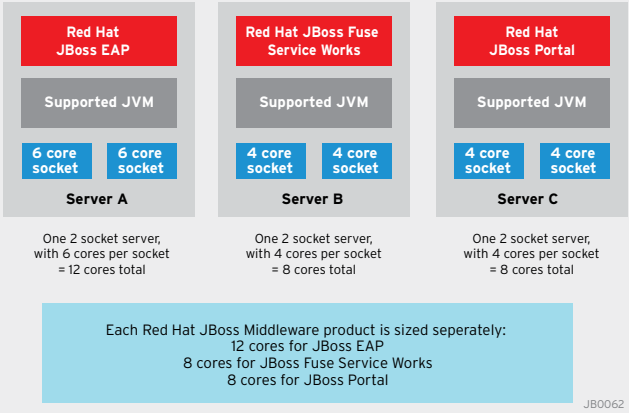


Figure 5. Multiple Red Hat JBoss Middleware product deployments

2.5. DEPLOYING ACROSS DEVELOPMENT, TEST, AND PRODUCTION ENVIRONMENTS

When deploying Red Hat JBoss Middleware, the virtual or physical cores across test, production, and hot disaster recovery or failover environments are totaled.

In test environments, typically automated or non-automated integration testing is happening, IT staff are performing application functionality and performance testing, or business users might be testing early versions of a given application.

For single-user development environments, the total number of users (e.g. developers), rather than cores, is counted. In development environments like laptops, workstations, or single-user instances on servers, developers are writing application code. Applications in this environment may be incomplete or going through considerable change. With the Red Hat JBoss Middleware subscription model, for every 16 cores under subscription, 25 users are provided with development use for all Red Hat JBoss Middleware products.

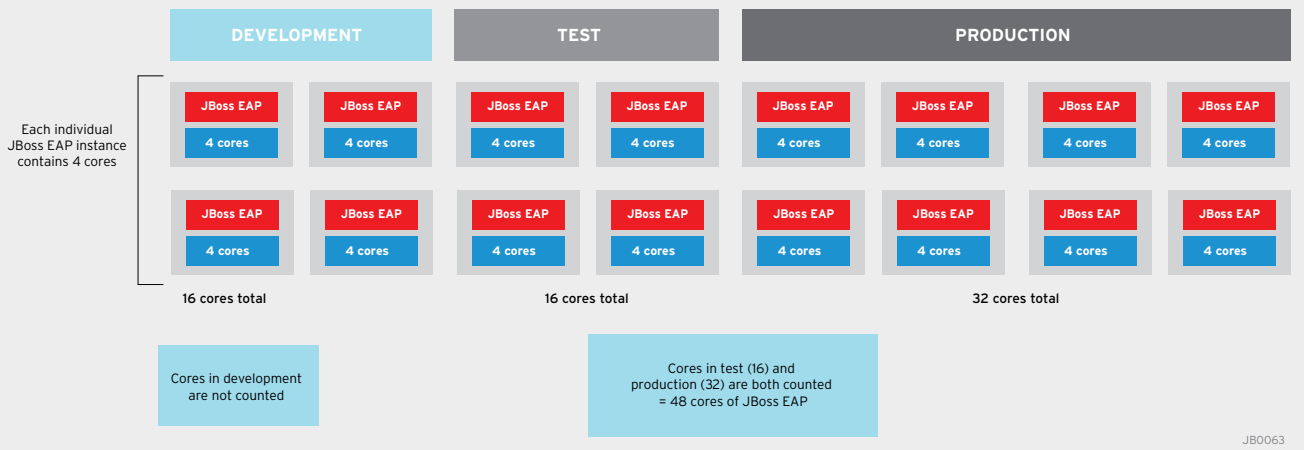


Figure 6. Deploying across development, test, and production environments

2.6. DEPLOYING RED HAT JBOSS MIDDLEWARE IN DISASTER RECOVERY

When deploying Red Hat JBoss Middleware deployments in disaster recovery environments, virtual or physical cores across hot disaster recovery or failover environments are included as part of the total core count.

Cores in cold disaster recovery are not counted. If a disaster were to occur and production systems under subscription were no longer available, customers could temporarily transfer their pre-existing production subscriptions that are no longer in use to their disaster recovery environments (making cold disaster recovery a temporary production environment).

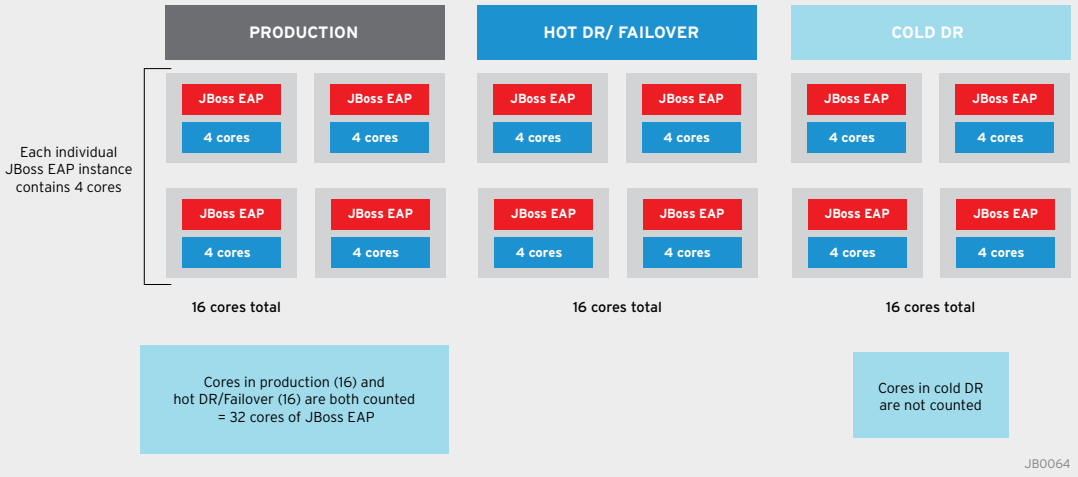


Figure 7. Deploying Red Hat JBoss Middleware in disaster recovery (DR) environments

RED HAT JBOSS MIDDLEWARE IN THE CLOUD

- Move middleware workloads from on-premise to a public cloud
- Choice of certified cloud providers across the globe
- Built with an open hybrid cloud in mind

3. CLOUD DEPLOYMENTS

3.1. DEPLOYMENT OF RED HAT JBOSS MIDDLEWARE IN THE PUBLIC CLOUD WITH RED HAT CLOUD ACCESS

The Red Hat Cloud Access program enables customers to migrate new or existing Red Hat JBoss Middleware subscriptions for use with selected Red Hat certified cloud providers, providing a consistent application environment across physical, virtual, and cloud deployments. Using your subscriptions in public clouds enables you to meet increased demand, improve response times, or simply use the environment for failover.

SUPPORTED PRODUCTS

At the time of writing, Red Hat JBoss Enterprise Application Platform and Red Hat JBoss Web Server are supported with Cloud Access. For all other Red Hat JBoss Middleware products, contact your Red Hat representative.

CERTIFIED CLOUD PROVIDERS

Looking for a trusted public cloud to deploy or build your application on? Choose your cloud provider from the comprehensive Red Hat Certified Cloud Provider Program.

Each provider in the program meets stringent testing and certification requirements so you get a safe, scalable, supported, and consistent environment for your enterprise cloud deployment.

Backed by Red Hat's award-winning global support services, our certified providers have support processes in place to quickly resolve any problems.

The Red Hat Certified Cloud Provider Program includes clouds worldwide, with multiple locations. To find a Red Hat-certified cloud, review our providers.[1]

Learn more about Red Hat Cloud Access at redhat.com.[2]

ONLINE VS. ENTERPRISE: WHAT'S THE DIFFERENCE?

OPENSHIFT ONLINE:

- Red Hat's public PaaS
- For use by individual developers or developer teams

OPENSHIFT ENTERPRISE:

- Private, elastic PaaS for your own private cloud environment
- Increased developer productivity
- Streamlined application service delivery
- Increased operational efficiency
- Better hardware utilization

3.2. PLATFORM-AS-A-SERVICE WITH RED HAT JBOSS MIDDLEWARE IN OPENSHIFT

PUBLIC PaaS: OPENSHIFT ONLINE BY RED HAT

OpenShift Online is Red Hat's public cloud application development and hosting platform that automates the provisioning, management and scaling of applications so that you can focus on writing the code for your business, startup, or next big idea.

OpenShift Online is targeted at development and comes with a two-business-day response SLA. At the time of writing, JBoss EAP is available as an add-on to OpenShift Online. Additional Red Hat JBoss Middleware products will be made available as an OpenShift Online add-on soon.

To learn more about OpenShift Online, including pricing, visit openshift.com or contact a Red Hat representative.

PRIVATE PaaS: OPENSHIFT ENTERPRISE BY RED HAT

OpenShift Enterprise takes the same open source PaaS platform that powers the OpenShift Online hosted service and packages it for customers who want an on-premise or private cloud deployment.

OpenShift Enterprise is a private PaaS that you control and manage within the constraints of your enterprise standards. It delivers increased developer productivity, streamlined application service delivery, increased operational efficiency, and expanded hardware utilization with an elastic, on-demand cloud platform.

OpenShift Enterprise comes with a choice of socket-pair pricing (when installing on physical systems) and virtual guest pricing (when installing in virtualized guests). Both Standard and Premium SLAs are available.

At the time of writing, JBoss EAP is available as an add-on to OpenShift Enterprise. Additional Red Hat JBoss Middleware products will be made available as OpenShift Enterprise add-ons soon.

1 *http://www.redhat.com/solutions/open-hybrid-cloud/public-cloud/find-provider/*

2 *http://www.redhat.com/solutions/cloud/access/jboss/*

To learn more about OpenShift Enterprise, visit openshift.com or contact a Red Hat representative.

ABOUT RED HAT

Red Hat is the world's leading provider of open source solutions, using a community-powered approach to provide reliable and high-performing cloud, virtualization, storage, Linux, and middleware technologies. Red Hat also offers award-winning support, training, and consulting services. Red Hat is an S&P company with more than 70 offices spanning the globe, empowering its customers' businesses.

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