

Red Hat Enterprise Linux 7.3 Technical Overview and Lifecycle Review

November 2016

Lifecycle Review



Platforms Roadmap

CY2016

CY2017

CY2018

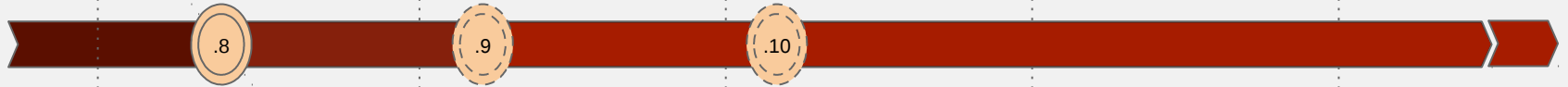
CY2019

CY2020

RHEL 7
ATOMIC HOST
RHEL FOR REAL TIME
RHEL FOR SAP APPLICATIONS
RHEL FOR SAP HANA



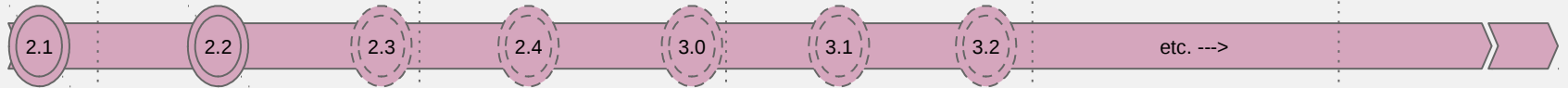
RHEL 6
RHEL FOR SAP APPLICATIONS
RHEL FOR SAP HANA



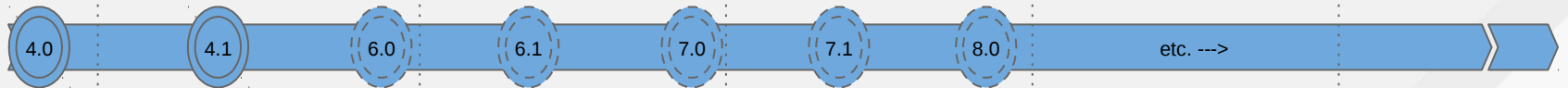
RHEL 5



SOFTWARE
COLLECTIONS



DEVELOPER
TOOLSET



LIFE CYCLE

Production 1
(5 ½ years)

Prod. 2
(1 year)

Production 3
(3 ½ years)

Description

Access to previously released content in Red Hat Network	yes	yes	yes
Red Hat knowledge base, documentation, videos, ref arch's, etc.	yes	yes	yes
Unlimited incidental technical support	yes	yes	yes
Security errata	yes	yes	yes
Bug fix errata	yes	yes	yes
Minor releases	yes	yes	yes
Refreshed hardware enablement	native	limited native	through virtualization
Software enhancements	yes	no	no
Updated install images	yes	yes	yes

<https://access.redhat.com/support/policy/updates/errata/>

Life Cycle Status

Red Hat Enterprise Linux Life Cycle:

<https://access.redhat.com/support/policy/updates/errata/>

Summary:

- Red Hat Enterprise Linux 5 has transitioned into *Production Phase 3* with version 5.11. *Product Phase 3* delivers critical business impacting fixes only.
- Red Hat Enterprise Linux 6 has transitioned into *Production Phase 2* with version 6.8.
- Red Hat Enterprise Linux 7 is in active development and in *Production Phase 1*.

7.3 Review



Red Hat Enterprise Linux 7.3

- Networking
- Increased throughput for both network and storage
 - datapath efficiency, scalability, flexibility, and security features via lightweight tunnels.
 - Improved performance for 40/100GB chips per memory allocator enhancements
 - New fast datapath (FD) channels via openvswitch in Red Hat OpenStack Platform, Red Hat OpenShift, and Red Hat Virtualization.
- Various hardware enablement

Red Hat Enterprise Linux 7.3

- Storage:
 - Support for non-volatile memory devices (NVDIMMs).
 - New lvm locking manager – includes sanlock and previous dlm

Red Hat Enterprise Linux 7.3

Security

- Updates to SELinux including faster policy creation
- OpenSCAP and the OpenSCAP Workbench updates
 - support for *atomic scan* allowing inspection of containers

Red Hat Enterprise Linux 7.3

Identity management

- Enhanced IDM management
 - WebUI replication agreement management
 - Visual representation of replica relationships
 - Simplified replica installation (no copying of replica creds or info)
- Various enhancements to smart card support and two factor auth
- Sssctl utility to provide info about status of sssd
- SSSD config validation
- Sssd drop file directory support
- Samba 4.4.4

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Reliability – Disaster Recovery (DR)

- multi-site support for RHCS
- Quorum device support added (recommended for 2 node clusters especially)
- More options for pacemaker alerts

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Filesystems

- XFS runtime stats moved to `/sys/fs`
- Xfsprogs rebased to 4.5.0
-

Red Hat Enterprise Linux 7.3

Linux Containers

- Atomic Scan
 - Allows for the inspection of Linux containers to identify known vulnerabilities and out-of-compliance issues.

Red Hat Enterprise Linux 7.3

Misc

- Support for Bluetooth LE
- Virt-v2v and virt-p2v win 8, 8.1 and 10 support as well as full support of virt-p2v from tech preview

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Tech previews

- IDM container
- Sssd in a container
- Clutter tool for managing cluster configs
- Cephfs
- Overlayfs
- Btrfs
- Lvm raid takeover
- Nested virt
- Container Signing

Red Hat Enterprise Linux 7.3

Miscellaneous

- Red Hat Enterprise Linux Server for ARM 7.3 Development Preview, Red Hat's operating system designed for 64-bit ARM-based systems has been updated to include:
 - Single-host virtualization based on KVM, one of the leading open source virtualization technologies.
 - Red Hat Ceph Storage for prototyping and deploying scale-out, software-defined storage.
 - Initial support for Red Hat Developer Toolset, which provides C and C++ developers with tools to create, diagnose, and debug applications for 64-bit ARM platforms.

Background: The Challenge

“We need to use more recent versions of dynamic languages and databases to support the business as we create and enhance web applications.”



DEVELOPERS

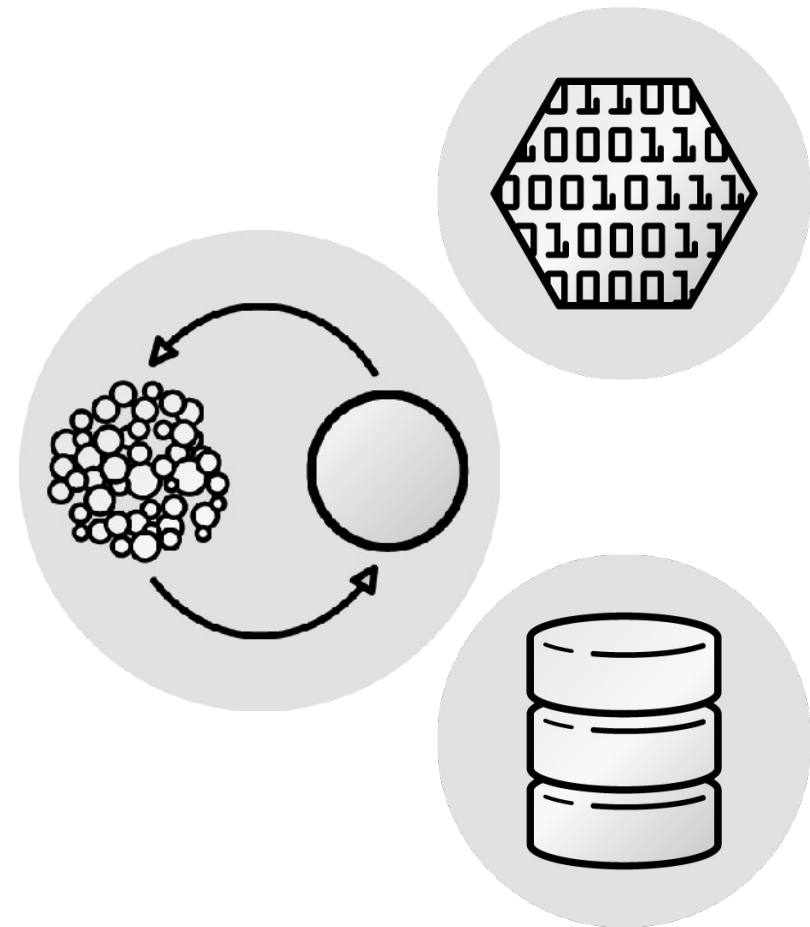
How do you **stay competitive** and **address your developers' needs** (as they take on additional responsibilities like DevOps) **while managing your costs and risks?**

Red Hat Software Collections

Delivers the latest stable versions of essential development tools, dynamic languages, and open source databases so users can create modern applications that can be confidently deployed into production.

KEY BENEFITS

- Choose the runtime versions best suited for projects.
- Preserve application stability with side-by-side versioning.
- Red Hat Support for two or three years.
- Examples: nodejs, perl, php, mariadb, mongodb, nginx, git, maven

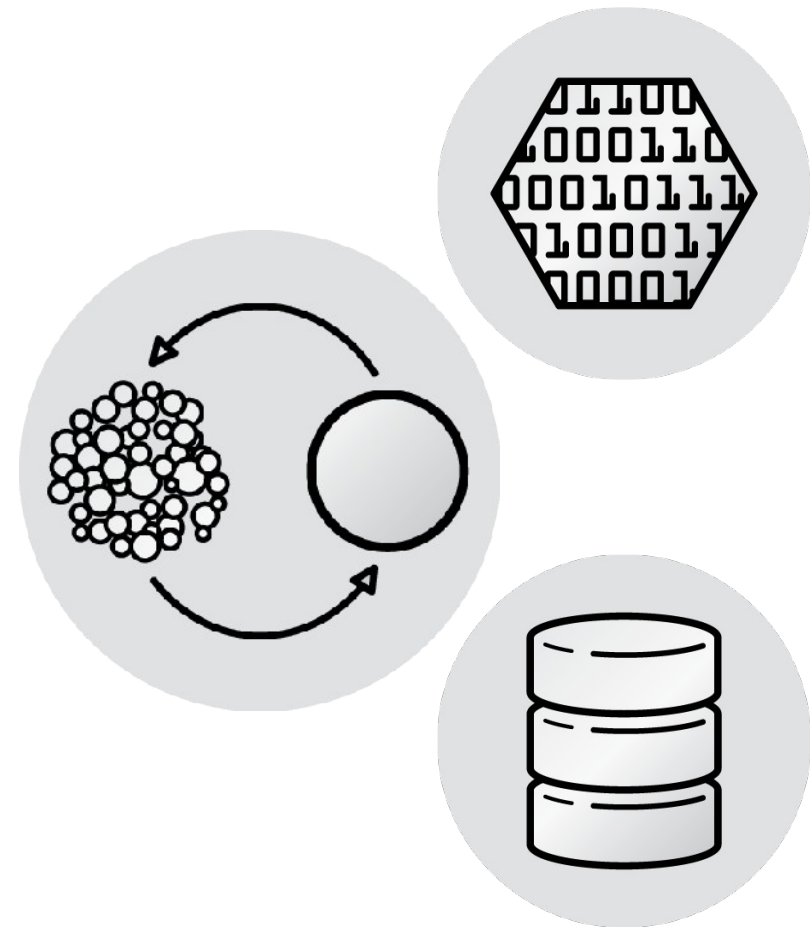


Red Hat Developer Toolset

Delivers the latest stable versions of GCC with C, C++, and Fortran support as well as debugging and developer performance monitoring tools.

KEY BENEFITS

- Choose the toolchain versions best suited for projects.
- Preserve application stability with side-by-side versioning.
- Red Hat Developer Support for two years.
- Examples: gcc, binutils, systemtap, valgrind, gdb, strace



Red Hat Enterprise Linux Content Summary Table

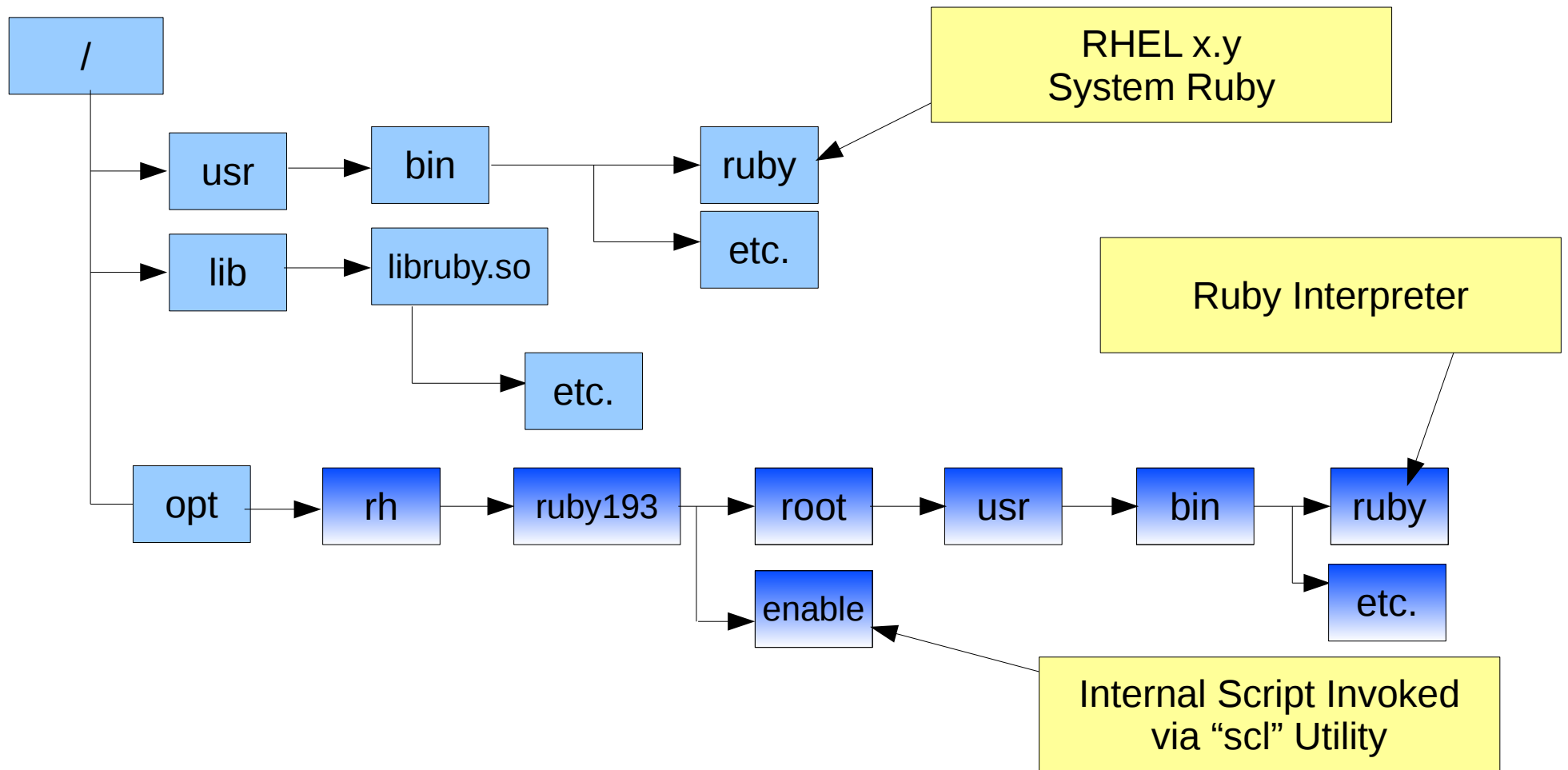
	Content	Packaging	Life Cycle	Available for Sale
RHEL	<p>Core group of Linux content sets with attributes in common.</p> <p>Offered in several product variants and production SLAs.</p>	RPMs	<p><u>10 Years</u></p> <p>Major Release: Every 3-4 Years</p> <p>Minor Release: Every 6 Months</p>	Several product offerings with production and developer support SLAs.
DTS	<p>Newer developer tools including and based around GCC for C, C++, and Fortran.</p>	<p>Packaged as a Software Collection & as a Container Image</p>	<p><u>2 Years</u></p> <p>Major Release: Every Year</p> <p>Minor Release: Every 6 Months (or as needed)</p>	<p>Select RHEL subscriptions with production SLAs.</p> <p>Also included in Developer Subscriptions (with Developer SLA).</p>
RHSCL	<p>Newer versions of components, starting with dynamic languages and databases, packaged in base RHEL.</p>	<p>Packaged as Software Collections & as Container Images</p>	<p><u>2 or 3 Years</u></p> <p>Major Release: Every 18 Months</p> <p>Minor Release: Every 6 Months (or as needed)</p>	<p>Select RHEL subscriptions with production SLAs.</p> <p>Also included in Developer Subscriptions (with Developer SLA).</p>

SCL and DTS Packaging

SOFTWARE COLLECTIONS

- A structural definition for an application or toolset that is independent of the OS
- Resulting packages can be layered on top of Red Hat Enterprise Linux
- Allows you to build and concurrently install multiple versions of the same software components on your system
- Does not overwrite system files
- Application packaging: installed outside the standard FHS for RHEL native components
- SCLs are installed in:
`/opt/<vendor>/<..>`
- RHEL includes utilities for building, installing, and configuring SCLs
- SCLs can depend on other Software Collections

SCL/DTS Packaging Example



- Ruby193 is a new toolchain, not default
- Special invocation to run

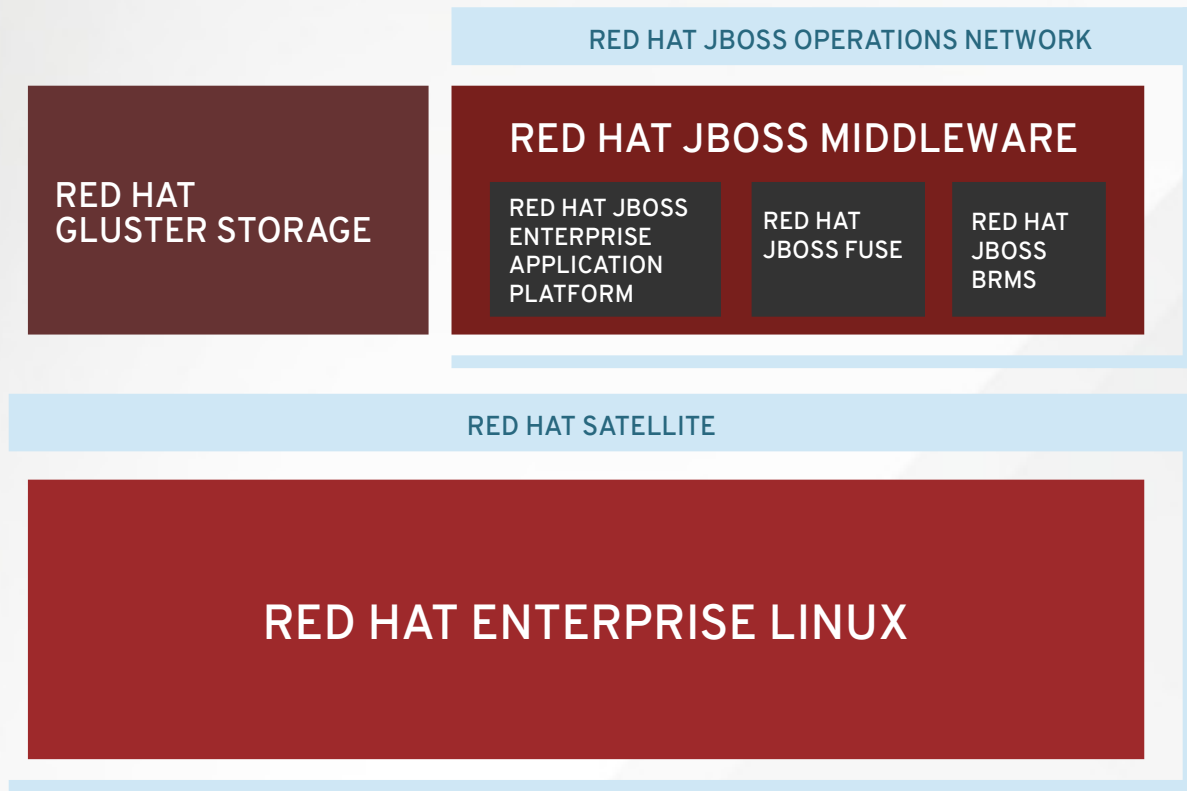
Installation Directions

- Using an existing Red Hat Enterprise Linux subscription, visit:
 - <http://developers.redhat.com/products/softwarecollections/get-started/>
- If using Satellite, generate a new cert.
- Register your system.
- Attach a subscription.
- Add channel – refer to the [release notes](#) for details.
- `yum install software-collection . . .`
- `scl enable software-collection . . . 'command . . .'`

Container Support for RHSC Collections

- Red Hat Software Collections collections include Dockerfiles packaged as an rpm in the Red Hat Software Collections content set for Red Hat Enterprise Linux 7.
- Starting with Red Hat Software Collections 2.0, new Red Hat Software Collections collections will have corresponding Docker images made available via the Red Hat Registry in the Red Hat Customer Portal.
- Red Hat Software Collections container images make selecting languages, web servers, and databases from Red Hat Software Collections as easy as performing a Docker pull from the Red Hat Registry.

Other RH Products



“Red Hat Gluster Storage allowed us to satisfy our current and future backup space requirements while being reliable, scalable, economical, and easy to use.”

—Oskar Pienkos, server and storage architect,
Simon Fraser University



“ Red Hat has played a fundamental role in implementing our solutions. OSDE’s decision to base its technology architecture and business support on open source technologies demanded products with large market participation and first-level enterprise support. —GUSTAVO AGUIRRE, CIO, OSDE Binario



RED HAT JBOSS MIDDLEWARE

RED HAT JBOSS
ENTERPRISE
APPLICATION
PLATFORM

RED HAT
JBOSS FUSE

RED HAT
JBOSS
BRMS

RED HAT MOBILE

RED HAT MOBILE
APPLICATION
PLATFORM

RED HAT ENTERPRISE LINUX

RED HAT SOFTWARE COLLECTIONS

PYTHON

RUBY

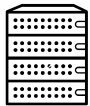
JAVA

...

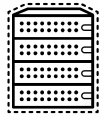
DOCKER CONTAINERS



OPENSIFT BY RED HAT



BARE METAL



VIRTUALIZED



PRIVATE CLOUD

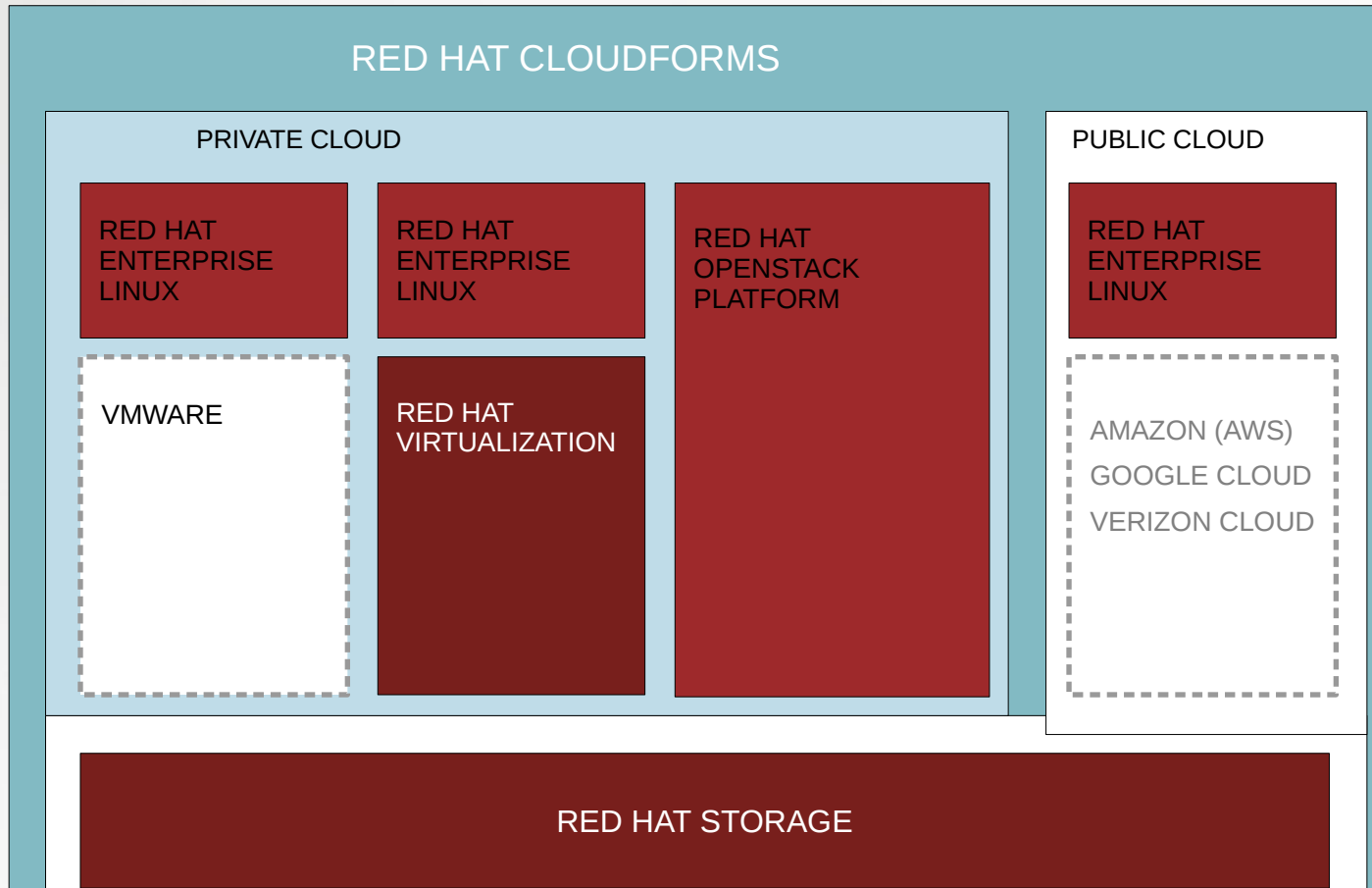


PUBLIC CLOUD

“We chose OpenShift as the PaaS foundation for cloud offerings thanks to its flexible, open source architecture, its minimal-overhead application programming model, and its excellent support for DevOps. Our teams are finding OpenShift to be enterprise-grade, scalable, stable, and productive.”

—Brett Adam, senior vice president,
Platform, CA Technologies





“We chose Red Hat for our internal cloud roll-out because it's the only multi-platform cloud solution currently in the market that is genuinely multi-vendor... Red Hat offers us a cloud solution that can be integrated with our previous infrastructure, without the need to demount what we already had in place to carry on moving ahead.”

—Sara Isabel Rubio, global platforms operation and security, Telefónica Global Solutions

Telefonica

RED HAT CONSULTING

Takes a big-picture view of your organization, analyzes your challenges, and helps you solve them with comprehensive, cost-effective solutions.

Integrate your enterprise to make your business more automated, flexible, and responsive.

Modernize your systems and applications to save money and time—so you can focus on new areas of innovation.

Harness the power of the cloud by establishing an intelligent, open cloud infrastructure.

Provide better efficiency through standardization, repeatability, and finely tuned processes.

RED HAT TRAINING

Arms your IT organization with knowledge and hands-on skills to optimize your Red Hat deployments—enhancing productivity and mitigating risk.

- ✓ **Employees gain skills, promoting IT success**
- ✓ **40+ courses on Red Hat technologies**
- ✓ **Hands-on certification programs to prove knowledge and skills**
- ✓ **More than 1 million Red Hat Training attendees**



Metro

“ The solution architect from Red Hat Consulting played a key part in the solution, offering guidance and explaining the various functionalities of the tool.

—GUSTAVO MARTÍN, technician, Operations and Telecommunications Systems, Metro de Madrid



Thank You