RED HAT ENTERPRISE LINUX ATOMIC HOST

A platform optimized for Linux containers

DATASHEET

KEY BENEFITS

- Minimal footprint, optimized to run containers

- Stability and reliability of Red Hat Enterprise Linux

- Flexible deployment with portability across open hybrid cloud infrastructure

- Secure isolation of containerized applications and host environments

- Orchestration of containers into unified, large-scale applications

- Immutable operating system provides turnkey deployment and consistent container environment

- Simplified maintenance through atomic updating and rollback

- Access to Red Hat Container Catalog and an extensive selection of certified and signed, base images

Linux® containers provide fundamental isolation capabilities and allow an application to be packaged along with its dependencies. By reducing the complexity of the host environment and deploying applications in a portable format, IT organizations can quickly realize the benefits of DevOps practices, including faster delivery of features via continuous deployment.

Container technology is not new; it has existed in UNIX derivatives since the early 1980s. Red Hat has been working on Linux container technologies for more than 10 years. What is new is the focus on ease of use and maturation of Linux containers as a portable application format.

Red Hat® Enterprise Linux Atomic Host is a secure, lightweight, and minimal-footprint operating system optimized to run Linux containers. A member of the Red Hat Enterprise Linux family, Red Hat Enterprise Linux Atomic Host couples the flexible, modular capabilities of Linux containers with the reliability and security of Red Hat Enterprise Linux in a reduced footprint, to decrease the attack surface and provide only the packages needed to power your hardware and run containers.

With this offering, Red Hat combines:

- An enterprise-class container-specific host.

- New container capabilities in the world's leading enterprise Linux platform.

- A certification program for containerized applications.

- An extensive ecosystem of support and services.

Red Hat's vision for containerized application delivery on an open hybrid cloud infrastructure is comprehensive, including portability across bare metal systems, virtual machines, and private and public clouds.

FEATURES AND BENEFITS

By choosing Red Hat Enterprise Linux Atomic Host, you can take advantage of the fast pace of innovation from open source community projects like the Docker project and Project Atomic, while maintaining a stable platform for production deployment. You can concentrate on customizing and developing containerized applications while Red Hat maintains the underlying Linux platform on which they depend.

FEATURES	BENEFITS
Optimized for containers Red Hat Enterprise Linux Atomic Host provides a streamlined host platform specifically for application containers. All applications and tools run inside containers.	The software components included in Red Hat Enterprise Linux Atomic Host, as well as the default system tunings developed by Red Hat Engineering, enhance the performance, scalability, and security of containers. This gives you an optimal platform for deploying and running application containers.

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FEATURES	BENEFITS
The confidence of Red Hat Enterprise Linux Red Hat Enterprise Linux Atomic Host is built from Red Hat Enterprise Linux 7.	Red Hat Enterprise Linux Atomic Host inherits the stability and maturity of Red Hat Enterprise Linux, as well as its hardware certifications. This gives you a vast choice of certified hardware partners.
Secure by default Applications are only run within containers, not directly on the host, creating a clear security boundary. Each container is then confined using a combination of Security-Enhanced Linux (SELinux) in enforcing mode, control groups (cgroups), and kernel namespaces. These are the same technologies that have been delivering military-grade security to Red Hat customers for more than 10 years.	You can more effectively isolate vulnerable containers with a secure host that implements a secure environment by default. Integrated technologies prevent a compromised container from affecting other containers or the host.
Access to Red Hat Enterprise Linux platform and Red Hat Container Catalog for building applications Red Hat Enterprise Linux Atomic Host provides all of the required tools to build and run container images based on Red Hat Enterprise Linux, including Red Hat Enterprise Linux 6 and 7 container images.	Developers can quickly build containerized applications for deployment on Red Hat Enterprise Linux platforms with access to container images of popular programming language stacks and development tools through Red Hat Software Collections. Applications that run on Red Hat Enterprise Linux 6 and Red Hat Enterprise Linux 7 can be deployed in a container on Red Hat Enterprise Linux Atomic Host, opening access to a vast ecosystem of certified applications.
Minimal footprint Red Hat Enterprise Linux Atomic Host is a secure and lightweight operating system with which you can control application dependencies through the use of containers.	Red Hat Enterprise Linux Atomic Host couples the flexibility and modular capabilities of Linux containers with the reliability and security of Red Hat Enterprise Linux in a reduced footprint. It provides just what is needed to simplify deployment and maintenance.
Portability across open hybrid cloud infrastructure Red Hat Enterprise Linux Atomic Host can be deployed on physical hardware, certified hypervisors, (including Red Hat Virtualization, VMware vSphere, and Microsoft Hyper-V), private clouds such as Red Hat OpenStack® Platform, and Amazon Web Services and Google Cloud Platform public clouds.	Organizations can choose the best infrastructure for containerized application deployments.

FEATURES	BENEFITS
Atomic updating and rollback Red Hat Enterprise Linux Atomic Host features a new update system for operating systems, based on rpm-ostree. RPMs are composed on a server into an OSTree repository, and client systems can replicate these in an image-like fashion.	Updates are composed into atomic trees, which can be downloaded from the Customer Portal and deployed in a single step. The previous version of the operating system is retained, so you can easily roll back to an earlier state. This simplified upgrade and rollback capability reduces the time you spend updating and maintaining systems.
Atomic command-line interface (CLI) The Atomic CLI provides a coherent entry point to the Atomic Host, providing a simpler path to manage the host and its containers.	Using the "atomic" utility, you can manage the host and its containers more easily. The Atomic CLI allows users to use a single utility to perform upgrades, manage containers, and view container activity in real time.
Cockpit Cockpit is a system administration tool that provides a user interface for monitoring and administering servers through a web browser.	You can view your Atomic Host's environment and available containers (running or not) at a glance. Drill down to the system console, or to a running container. Watch central processing unit (CPU), network, and storage usage in real time. Cockpit allows you to monitor current values and adjust limits on system resources, control life cycle on container instances, and manipulate container images.
Support for super-privileged containers Some container-based applications, such as host management applications, need access to the host system or other containers to work properly. With super-privileged containers, processes run from the container have the appropriate rights to manipulate the host file system and host processes as well as processes in other containers.	You can easily configure super-privileged containers through the command-line interface, granting trusted access to the host system and other containers for the container-based applications that need it.

TECHNICAL SPECIFICATIONS

Red Hat Enterprise Linux Atomic Host runs on x86_64 server platforms that are certified to run Red Hat Enterprise Linux.

HARDWARE ARCHITECTURE	X86_64
Deployment environment	Physical, virtual, and cloud
Recommended memory requirements[1]	1GB minimum 1GB logical CPU

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1 *View* access.redhat.com/articles/rhel-limits *for additional information.*

^ Additional information on Red Hat Enterprise Linux life cycle: access.redhat.com/ support/policy/updates/errata

~ Additional information on production support service level agreements: access. redhat.com/support/offerings/ production/sla

KERNEL	
Kernel version	3.10
Possible kernel rebase during life cycle	No
Kernel application binary interface (kABI) guarantee	Yes

APPLICATION SOFTWARE	
Userspace software and utilities	Built from a common source for all Red Hat Enterprise Linux variants
Application binary interface (ABI) compatibility for a given architecture	Yes
Application programming interface (API) compatibility during life cycle	Yes
ABI compatibility during life cycle	Yes
Ecosytem of innovation	Yes

| SERVICE-LEVEL AGREEMENTS	
Product life cycle ^	Three years
Production support service-level agreement ~	Standard, Premium
Asynchronous bug fixes (RHBAs)	Urgent and high
Asynchronous security fixes (RHSAs)	Critical and important

ADD-ONS	
Add-Ons for Red Hat Enterprise Linux Server	No
Extended Update Support Add-On (EUS)	No

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.
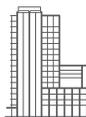
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