



THE RED HAT APPLIANCE OPERATING SYSTEM

Software appliances hold the promise of revolutionizing the way customers deploy their business applications by providing a one-step process that eliminates the need for operating system installation, configuration, and complex integration of multiple elements in the software stack, such as databases and middleware. The Red Hat Appliance Operating System allows ISVs to distribute their applications pre-packaged as complete solutions to their customers. Built from the industry's leading open source operating system, Red Hat Enterprise Linux, the Red Hat Appliance Operating System allows ISVs to extend their offerings to new markets without incurring the development costs and overhead associated with supporting a new operating system.



OVERVIEW

A software appliance is a pre-packaged solution, provided by a software vendor, that includes the operating system configured with the application and all supporting components, such as databases and middleware.

The first generation of hardware-based appliances where the vendor provides a complete packaged solution, including the server itself, have been deployed in data centers for almost a decade. The customer simply plugs the machine into the network and performs basic configuration steps, such as setting a host name or IP address. These solutions were commonly used to provide simple plug-and-play offerings for customers who did not have the expertise or budget to implement the solution themselves. In some cases these solutions were provided by traditional software vendors who provided hardware appliances as an alternative deployment method in addition to the standalone software, allowing them to sell their solutions to a wider audience. In other cases dedicated appliance vendors developed these products to address a market need. Typical examples of hardware appliances are complex network infrastructure components, such as firewalls, VPNs, VOIP servers, email filters, and even file servers.

Virtualization has enabled the emergence of a new class of deployments: software-based appliances. In this model the entire solution is delivered as a pre-packaged image, including the operating system, pre-configured with the application and all supporting components.

Appliances simplify deployment for end users: a one-step installation process removes the need for operating system installation and configuration, middleware, and database setup. All the complex integration and configuration is complete out of the box. This model simplifies support, allowing the customer to deal with a single vendor for their entire stack, including support and patching.

The appliance model offers a number of benefits to the end user but presents new challenges to the ISV. The lack of standardized offerings within the appliance market has led to the proliferation of a new class of smaller, homegrown Linux distributions maintained by the ISVs. This makes them step outside their core of areas of expertise by becoming operating system packagers and maintainers. The problem is amplified by the need to provide timely patches, especially to address security issues.

A number of small bespoke offerings have emerged to help the ISV create a packaged solution, but they have forced ISVs to port their code to other platforms and increased development and QA overhead by adding platforms to their development environments. These issues have prevented many ISVs from adopting the new model, and to date the appliance market has yet to realize its true potential.

Red Hat provides a unique solution to enable ISVs to take advantage of the new appliance model and to rapidly bring solutions to market.

The Red Hat Appliance Platform allows ISVs to distribute their applications pre-packaged as complete solutions, simplifying deployment, management, and maintenance for their end users.



RED HAT APPLIANCE PLATFORM

The Red Hat Appliance Platform comprises the Red Hat Appliance Operating System (AOS) and the Virtual Appliance Development Kit (vADK) used to create and configure the appliance image. Using the vADK, ISVs can provide software updates in the form of new images or incremental updates. The Appliance Operating System is built on top of Red Hat Enterprise Linux and is optimized for virtual deployments.

FLEXIBLE DEPLOYMENT OPTIONS

The Red Hat Appliance Platform offers a number of flexible deployment options, allowing customers to deploy the appliance on the virtualization platform of their choice.

The Virtual Appliance Development Kit (vADK) creates a single image that can be deployed as a virtual machine on:

- Red Hat Enterprise Linux 5
- VMware ESX 3
- Amazon EC2 - Computing Cloud
- Sun xVM
- Microsoft Viridian (when available)

Using the Red Hat Appliance Platform, ISVs can take advantage of new deployment models without incurring additional development costs.

SOFTWARE-AS-A-SERVICE OR ON-PREMISES DEPLOYMENTS

The Software-as-a-service model (SaaS) provides an alternative to traditional on-premises deployments. Using SaaS customers have access to enterprise applications without investment in hardware or infrastructure. In fact an organization no longer requires a data center!

ISVs can now leverage the emerging SaaS market using the Red Hat Appliance Platform. Rather than choosing among SaaS, appliances, and traditional deployments, the ISV can deploy a solution in the method that best suits their customers.

The Red Hat Appliance Platform can be deployed on Amazon's Elastic Compute Cloud (EC2) and accessed over the web. Using this model ISVs could provide the appliance for their customers to deploy "on the cloud" if they chose, or the ISV could offer a new subscription-based service, hosting the appliance on Amazon's EC2 and charging their customers an annual, monthly, or pay-per-use subscription.

Appliances and cloud computing allow software vendors to reach new markets and enable new revenue models.



BENEFITS OF THE RED HAT APPLIANCE PLATFORM

GUARANTEED COMPATIBILITY

The Red Hat Appliance Operating System (AOS) is built from the industry's leading open source operating system: Red Hat Enterprise Linux.

Red Hat Appliance Operating System retains ABI and API compatibility with Red Hat Enterprise Linux, allowing applications that are certified on RHEL to run unchanged on Red Hat Appliance Operating System.

A single certification covers all deployment models supported by Red Hat: standalone servers, virtualization, cloud-based computing, and software appliances. With Red Hat Enterprise Linux you can certify once and deploy everywhere.

REDUCE DEVELOPMENT COSTS

Using Red Hat Appliance Operating System, ISVs don't need to port their code to new platforms. Even supporting a new Linux distribution can add months to the development cycle, requiring the developers to learn new tools and packaging technologies, setup and debug a new build environment, create parallel code trees, and duplicate certification and testing activities.

The result is increasing investments being made in platform engineering at the expense of application development.

Using Red Hat Appliance Operating System, an ISV can standardize on a single platform, reducing development and ongoing support costs.

Rather than port an application to Windows to satisfy the requirements of a new client base, an ISV can deliver a software appliance that can be deployed as a virtual machine under Windows or VMware, providing the customer with an application deployed on the platform of their choice.

SUPPORT COSTS

Many support calls to ISVs can be traced back to a misconfiguration within the operating system, middleware, database, or the deployed application. By shipping a pre-configured solution, the ISV can ensure that the entire environment is correctly configured, tested, and certified. Compatibility issues such as mismatched libraries or conflicting patch levels are eliminated. All updates to the appliance are defined by the ISV, ensuring that all elements of the software stack are tested and certified together before being delivered to the customer.

Red Hat has a proven track record for support, providing industry leading support for more than ten years. Red Hat provides 24x7 support around the globe, ensuring that ISVs can receive the level of support they require to provide their customers with a secure and stable solution.



SECURITY

Red Hat Enterprise Linux Appliance Operating system was designed to be secure from the ground up, extending Red Hat Enterprise Linux's security framework by providing a hardened, read-only operating system and application environment. The reduced footprint of the operating system provides a smaller "attack vector." Only the components of the operating system that are required to support the application are installed, reducing the number of potential vulnerabilities.

ISVs can publish new images or provide incremental patches from the vADK, allowing the software vendor to respond quickly to customer issues or security concerns.

Red Hat leads the industry with a rapid response and resolution to security issues. Recent analysis shows that 73% of critical bugs are fixed and published on "day 0" within the first 24 hours of a security issue being disclosed; 95% of these bugs are fixed on day 1 and 100% by day 2.

ISVs can rely on Red Hat's proven track record to provide a secure and stable environment for their packaged applications.

OPENING UP NEW MARKETS

The appliance model allows ISVs to expand their reach into new market segments, in particular the small to medium business market (SMB). SMBs typically lack the infrastructure or personnel to support many enterprise-class software packages that may require complex integration and configuration.

Software appliances provide a simplified, one-step installation process, removing the need for operating system installation and configuration, middleware, and database setup. All the complex integration and configuration is already complete, out of the box.

BETTER EXPERIENCE FOR CUSTOMERS AND PROSPECTS

Demonstrations, evaluations, and proofs-of-concept are simplified by removing the complexity of installation and integration. The need to provide costly consulting and technical support during evaluations is greatly reduced.

Software appliances give ISVs the ability to provide evaluation copies of their applications. Potential customers can evaluate new software packages without needing to procure dedicated hardware or invest significant time in installation and configuration. Customer satisfaction is greatly improved since the solution is installed in minutes and "just works."

EXPANDED CHANNEL OPPORTUNITIES

ISVs can leverage the software appliance model to expand their sales channels by quickly adding new distributors and resellers who no longer have to face a steep learning curve to incorporate a new platform or learn how to complete complex installation and integration procedures. An ISV can provide a pre-packaged solution that requires minimal technical training to sell and implement.



HOW TO GET THE RED HAT APPLIANCE OPERATING SYSTEM

The Red Hat Appliance Operating System will be available in the first half of 2008.

ISVs interested in participating in Red Hat's Appliance program can contact appliance-info@redhat.com