

Red Hat OpenShift™ Enterprise Platform-as-a-Service (PaaS) Solution: FAQ

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What is the OpenShift Enterprise PaaS solution?

Red Hat OpenShift™ Enterprise Platform-as-a-Service (PaaS) solution is an enterprise cloud application platform designed to enable organizations to leverage the agility and efficiency of the cloud, while addressing the real-world governance and operational requirements of the enterprise. It provides a comprehensive development and execution platform for enterprise applications, delivered in a choice of cloud deployment and operational management models. OpenShift Enterprise PaaS can be deployed as a hosted or an on-premise solution, which can support traditional, IT operations (ITOps)-driven operational models today and will be able to support rapidly emerging DevOps operational models in the future.

What does the solution include?

OpenShift Enterprise PaaS is a bundled offering for enterprise application development and execution in the cloud. The following components are planned for this solution:

- **Red Hat CloudForms™** – An on-premise cloud management framework to build open hybrid clouds, manage cloud application lifecycles, and enable governed self-service deployment for end users
- **JBoss Enterprise Application Platform Managed** – A cloud-ready, enterprise-class, Java EE6-certified application middleware platform for running enterprise Java applications, which also includes JBoss Operations Network for middleware management and monitoring
- **Red Hat Enterprise Linux** - A secure, scalable, and reliable operating system platform for hosting cloud application environments
- **Red Hat Enterprise Virtualization** - A powerful virtualization solution that combines the Kernel-based Virtual Machine (KVM) hypervisor with enterprise virtualization management

OpenShift Enterprise PaaS will enable Red Hat customers to build an on-premise private or hybrid PaaS environment for their developers. This “ITOps PaaS” environment will enable organizations to bring agility to application development, while addressing the needs of enterprise IT to meet governance, security, and compliance objectives. In the future, we expect this solution to be expanded to enable users to build a “DevOps PaaS” environment by integrating the OpenShift Origin source code into the OpenShift Enterprise PaaS solution.

What is the difference between ITOps and DevOps PaaS models?

[DevOps](#) is an emerging set of principles, methods, and practices for communication, collaboration, and integration between software development and IT operations professionals. PaaS solutions enable DevOps models by giving developers greater control and automation to deploy and scale their applications. A DevOps PaaS environment provides the agility of a fully automated, self-service PaaS for enterprise developers in a private or hybrid cloud environment. In most enterprise organizations, however, application deployment and infrastructure provisioning is controlled and managed by a central IT operations teams (e.g., ITOps). This centrally controlled “ITOps” model can conflict with the distributed control and freedom enabled by DevOps models.

An ITOps PaaS environment provides the agility and flexibility of PaaS for enterprise developers while maintaining centralized control and governance for enterprise IT in a private or hybrid cloud

environment. With OpenShift, Red Hat plans to support both models, which is critical for enterprise PaaS adoption.

How will OpenShift Enterprise PaaS help me build an ITOps PaaS environment?

The OpenShift ITOps on-premise solution will be based on Red Hat CloudForms. CloudForms enables users to build and manage an open hybrid cloud infrastructure as well as build and manage applications to run in the cloud. With CloudForms, administrators can create blueprints for their application stacks and automatically generate images that can be deployed across multiple providers. They can then populate an application catalog and enable self-service deployment for enterprise developers.

Combined with Red Hat Enterprise Linux and JBoss Enterprise Middleware, CloudForms can provide the PaaS capabilities many enterprises need for application developers while enabling IT operations teams to maintain centralized control and governance. Access this [reference architecture](#), which details a use case about how to use CloudForms to deploy Red Hat Enterprise Linux and JBoss Enterprise Middleware for an ITOps PaaS.

How will OpenShift Enterprise PaaS help me build a DevOps PaaS environment?

We plan to enhance the OpenShift Enterprise PaaS solution in the future to enable users to build a DevOps PaaS environment. It will be based on OpenShift Origin, the open source code that powers OpenShift.com, which we plan to integrate into the OpenShift Enterprise PaaS solution. Administrators will be able to leverage CloudForms (or another IaaS provider) to build a cloud environment and then deploy the OpenShift Origin platform to their clouds that are built on Red Hat Enterprise Linux, JBoss Enterprise Middleware, and other open source components.

We intend to enable enterprise developers to access OpenShift solutions in their own clouds and leverage multiple programming languages, frameworks, developer tools, and platform services to quickly build and deploy applications. This will provide an on-premise PaaS solution comparable to the OpenShift hosted service. The DevOps PaaS capability is expected to be available in the OpenShift Enterprise PaaS solution in first half of CY2013.

What is the OpenShift platform?

The OpenShift platform is the collection of Red Hat and open source technology that powers the OpenShift PaaS, available [today](#) as a Public PaaS at [OpenShift.com](#) and soon as a Private or Hybrid PaaS that customers can deploy on-premise through the OpenShift Enterprise PaaS solution. This includes a secure and scalable multi-tenant operating system that is built on Red Hat Enterprise Linux operating system and leverages technology such as cGroups and SELinux. It includes enterprise-class middleware services built on JBoss Enterprise Middleware. It includes support for multiple programming languages, including Java, Ruby, PHP, Python, Perl, and Node.js, frameworks, and lifecycle development tools powered by both JBoss Enterprise Middleware and Red Hat Enterprise Linux. It also includes additional platform services, including SQL and NoSQL data services, mobile application frameworks, and other services from Red Hat's open source ecosystem and partners like 10Gen (MongoDB) and Appcelerator. This integrated platform technology makes OpenShift a compelling cloud application platform for enterprise PaaS.

Why is OpenShift better than other PaaS offerings?

Over the past few years, a number of PaaS offerings have been released and user interest in PaaS has grown tremendously. However, the current wave of PaaS solutions do not fully address enterprise PaaS requirements. Most of these offerings, including Google AppEngine, Heroku, and others, are only available as public cloud services and do not address enterprise customer requirements for private and

hybrid cloud options to address security and compliance needs. While these offerings may enable emerging DevOps development models, they may not fit with existing enterprise governance and operational management policies. And to date none of these providers develop, deliver, and support a complete enterprise application technology stack for their PaaS solutions as Red Hat does with OpenShift.

When will the OpenShift Enterprise PaaS solution be available?

OpenShift Enterprise PaaS was announced at Red Hat Summit 2012 in June. The individual components of this solution are already available from Red Hat , as well as an [ITOps PaaS reference architecture](#). A bundled offering that includes all of the solution components under a single SKU will be available in the second half of CY2012.