



# AppScale: PaaS Anywhere

Cloud computing offers companies easy access to vast resources in datacenters owned by Amazon, Google, and others. Yet there are challenges that developers and operations teams face when migrating and hosting applications in public clouds. This has become such an issue that terms such as DevOps have been coined to describe solutions that aid these teams. Many DevOps solutions (such as Ansible, Puppet, Chef, and Docker) focus on how to automate software installation and package management on cloud infrastructure-as-a-service (IaaS) offerings, where users are given virtual machines to maintain. But this still requires users to install packages themselves and become well versed as system administrators on the software stacks they create.

AppScale solves problems that developers and operations teams face by instead focusing at the Platform-as-a-Service (PaaS) layer. In a PaaS, developers code to standardized APIs. This represents a paradigm shift from IaaS clouds, where users decide what software needs to be installed, what versions of each piece of software are needed to work together, how to configure the software, maintain it, and finally (but most importantly), write the software they set out to create in the first place. With AppScale, developers only need to worry about writing their application. AppScale handles how to deploy applications to best serve users. This is what is referred to by the term “NoOps,” where the platform is automatically configured and maintained, so that while development is still necessary, a dedicated operations team is not.

AppScale is modeled after what is perhaps the best known PaaS offering: Google App Engine, which automatically hosts and scales applications written in Python, Java, Go, and PHP. Developers code to simple APIs that indicate how their data should be stored and retrieved, and how web requests should be handled. Google then implements these APIs to provide automated data backups as well as autoscaling, so that users only pay for machines that are needed to serve the traffic that an application sees. While the Google App Engine programming model easily enables NoOps, their implementation requires users to run on Google’s resources.

AppScale provides an open source implementation of the Google App Engine APIs. Because AppScale is open source, it can run anywhere. It can run in public clouds, including Amazon Web Services, Google Compute Engine, and Microsoft Azure, as well as private clouds, including Eucalyptus, OpenStack, and CloudStack. It also can run on a developer’s laptop or local cluster, via VirtualBox, Docker, Xen, or KVM.



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AppScale implements support for the Google App Engine APIs with the following proven open source software:

Datastore API: Cassandra and ZooKeeper

Memcache API: memcached

Task Queue API: RabbitMQ and Celery

XMPP API: ejabberd

Channel API: strophe.js

Blobstore API: Cassandra and ZooKeeper

Images API: PIL

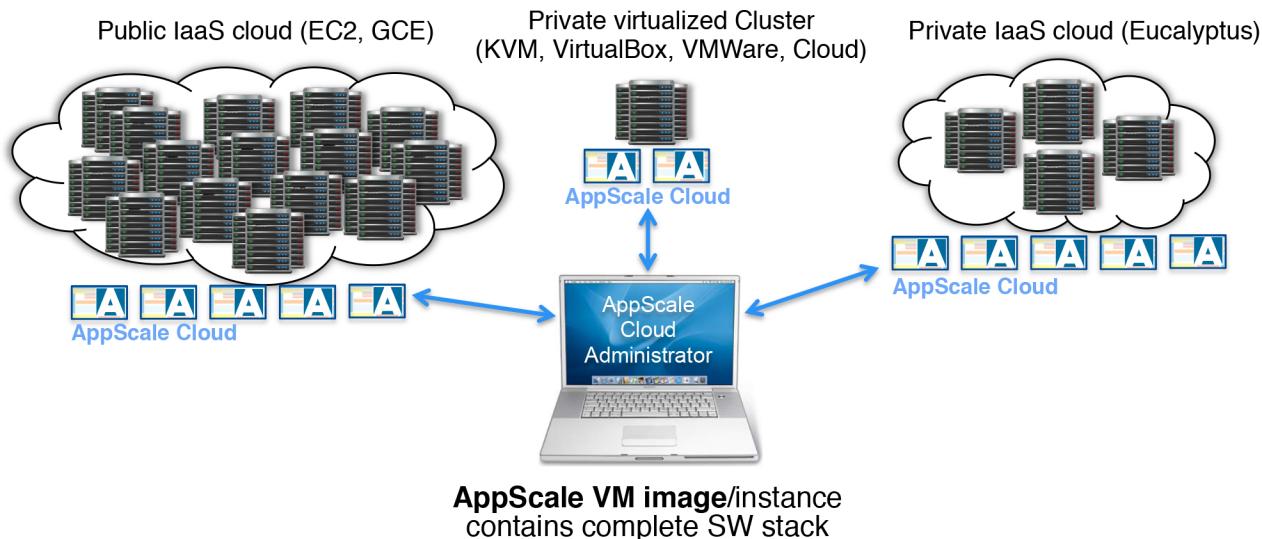
Cron API: Vixie Cron



AppScale provides you with the ability to control your PaaS deployment. You dictate where AppScale runs, allowing you to have a private PaaS that secures your data behind your company's firewall. And since AppScale is open source, you can modify it as you need to for your applications. You can remove restrictions set in place by the App Engine APIs to allow third-party libraries, raise or remove request time limits, or even plug in different implementations of the APIs supported in AppScale.

AppScale provides you with both the freedom of DevOps, and the automation of NoOps. We call this LeanOps, because it provides a lean, thin interface (the APIs) that developers can use to get exactly as much DevOps as they need, and exactly as much NoOps as they need. We think this is the future of development, so give AppScale and Google App Engine a try, and let us know what you think!

Please contact Tyler Krebs ([tyler@appscale.com](mailto:tyler@appscale.com)) for information on how you can get a private PaaS for your organization and other professional service offerings provided by AppScale.



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Interested in learning more about how AppScale private PaaS can benefit your business? Have a question? Reach out to us, we're happy to help.