The Power of AWS plus OpenStack

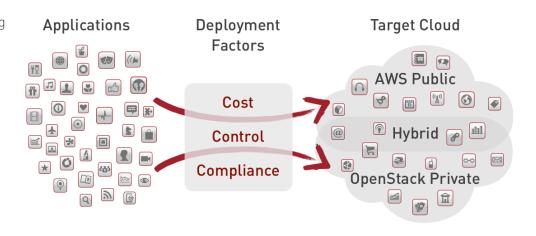
For companies delivering web, mobile, ecommerce, social, gaming and other highly scalable application services over the Internet, access to elastic cloud infrastructure is a critical requirement of the business model. Public clouds are the elastic infrastructure of choice to incubate and prove the commercial success of these new applications. But with success comes the potential for rapid infrastructure growth, and deploying all applications on public clouds gets expensive over time with limited options for performance optimization.

Cloudscaling provides Infrastructure as a Service private clouds based on OpenStack that are behaviorally and architecturally compatible with leading public clouds like Amazon Web Services (AWS) to support on-premise and hybrid cloud application deployments. Our approach delivers the best of both worlds, enabling you to deploy applications with the control, security, economics and performance optimizations of your own OpenStack-based private cloud along with the flexibility, scalability and geographic reach of the AWS public cloud.

Hybrid Cloud Made Real - Flexibly Deploy your Apps to the Best Fit Infrastructure

With the rapid rise and maturation of OpenStack, it's now feasible to deploy apps in your own elastic private cloud and manage them using the same tools you leverage in the public cloud. The most common drivers for these private cloud deployments include control (cost and performance optimization) and risk management.

While the public cloud is brilliant for on-demand scaling capacity, infrastructure cost and economics will eventually factor into consideration, especially for steady state and base workloads. Over several years, the TCO of private elastic clouds can be 50% that of public elastic clouds. With federated hybrid clouds as an option, the most efficient IT



strategy is to "own the base and rent the spike."

Control and risk reduction is another major factor. With open source software deployed on-premise, you can control your own destiny. There's a continuum of choice from small companies using AWS with no control over the infrastructure to Facebook on the other end of the spectrum designing their own data centers and hardware. As you get bigger, you will require greater control.

In many cases with public cloud, you're paying for unused resources. For example, a CPU heavy workload needs a c1.xlarge instance size, but the application doesn't need the amount of RAM or the disk drives in these boxes. When the infrastructure can be tailor fit to workload needs, performance increases while costs fall.

Compliance and regulatory requirements are another major driver for private cloud computing. Regardless of whether it's HIPAA, SOX, PCI DSS, or just sensitive workloads managing customer data or financials, having full control of the compute and storage infrastructure simplifies demonstrating compliance in audits.

Cloudscaling OCS is Turnkey & Future Proof

The Cloudscaling Open Cloud System (OCS) future proofs your infrastructure by 1) providing deep compatibility with leading public clouds (leveraging the reference models of Amazon Web Services and Google Compute Engine) and by 2) extending the OpenStack framework, the de facto winner among open source elastic laaS clouds.

Cloudscaling OCS employs an integrated systems approach that packages a proven hardware reference architecture with advanced OpenStack extensions to maximize maintainability, availability, performance and security. The end result is a production-grade, turnkey system that can be deployed in a week or less and then supported 24x7 from the concrete up by a team of cloud experts.

Supports Common DevOps Tools & Processes for Hybrid Cloud Application Lifecycle Management

From EC2 instances to S3 objects, EBS volumes, Elastic IPs and Virtual Private Clouds, OCS delivers the same cloud building blocks you employ in AWS to deploy applications into your on-premise private cloud. Your applications can use the standard sizes from t1.micro to cc2.8xlarge, and you can create custom instance configurations to optimize cost/ performance for compute, memory, storage or network performance.

As OCS is compatible with the leading public cloud services, you have the

flexibility to use your existing tools and processes for application lifecycle management, as well as to leverage best of breed tools like Chef or Puppet for configuration management and RightScale or Enstratius for cloud application management.

Cloud Solutions (DevOps, PaaS, Big Data)	ActiveState The Dynamic Language Experts	cloudera
Cloud Application Management	RIGHT SCALE Cloud Management Platform	enstratius
Configuration Management	OPSCODE	puppet
Elastic Cloud Services	EC2 EBS	S3 VPC
Elastic Cloud Infrastructure	cloudscaling	amazon webservices™

In sum, OCS delivers operationalized cloud infrastructure that is both interoperable with public clouds and easy to deploy, manage and scale. As there's no additional development, support or maintenance headaches introduced, you can focus on your application's differentiated value and quickly remove a great deal of cost and risk from the equation.

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Cloudscaling is the trusted source for information on OpenStack and together with the community is openstack making OpenStack more productiongrade. For more information, please visit www.openstack.org.

Common Use Cases

Enable Public Cloud Compatibility for Hybrid **Deployments**

Flexibly deploy and manage applications across public and private cloud infrastructure with consistent performance and behavioral fidelity while leveraging common tools and processes. No retraining or rearchitecting is required.

Optimize the Infrastructure for Application Performance

Deploy cloud infrastructure that cost-effectively optimizes performance for your specific application workload requirements.

Empower Agile Development

Provide DevOps teams with agile, API programmable infrastructure to modernize the way you manage development and deployment.

Implement Platform as a Service

Accelerate application development, deployment and operations across your language and framework of choice.

Repatriate Apps for **Economics**

Many applications with volatile scaling requirements start off in the public cloud, but as demand stabilizes, it is much more cost effective to host applications in a private, elastic cloud.