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Hybrid PaaS

Hybrid PaaS for OpenStack: Microservices with Orchestration and Governance

Platform-as-a-Service (PaaS) solutions based on microservices offer powerful and pragmatic benefits to OpenStack users. Developers no longer need to worry about the underlying infrastructure. They can focus more on development, functional testing, deployment, scaling and less on specific platform details. IT Operations and developers are starting to look for modern PaaS solutions that can deploy applications in a multi-cloud environment or in a hybrid cloud setup with infrastructure on-prem.

Many PaaS solutions lack key features that simplify the "out-of-the-box" experience. Infrastructure-as-a-Service (IaaS) platforms have helped organizations run compute instances on-demand based on usage for many years. To deploy a PaaS solution across various cloud infrastructures is a complex challenge because there must be a way for applications and services to communicate with each other and monitor the health and status of the cluster. Security must also be considered with policy and governance for each component involved.

Some PaaS solutions may not have support for securely communicating with external services—such as a databases or persistent storage—or may lack support for a desired programming language. A resilient PaaS solution should have the ability to manually add support for any programming language required by the development team. Security and monitoring on the application level is crucial for enterprises to have situational awareness of activity on the platform. PaaS should have features to scan applications for malware at inception and effective logging mechanisms available to monitor the health of an application or service.

PaaS solutions lack mechanisms for application governance. Governance is what defines and enforces policies on applications and in environments that stretch across multiple cloud infrastructures. IT Operations may need to develop their own custom tools to enforce policy in production environments and react quickly to ensure that SLAs are met. If PaaS does not have built-in governance and policy, it will be difficult for enterprises to control compute resources, ingress and egress network access, and permissions at different layers as well as controlling which libraries or software packages can be used. When multiple clouds are involved, the complexity increases and organizations require built-in tools for management and governance from their PaaS solution.

Apcera Platform: Governance from the Ground Up

Founded by leaders in open PaaS development, the Apcera Platform was engineered from the ground up to provide full confidence and trust for enterprises to use any tool or software they want while giving IT operations the assurances that their infrastructure is safe and secure.

The Apcera Platform is system-agnostic and can run on and across any infrastructure, including on-prem, private cloud (VMware or OpenStack) and public cloud (e.g. Amazon, Google Cloud Platform, IBM SoftLayer). In the Apcera Platform, workload communication, resource and service access, security and other constraints are fully portable from one IaaS environment to another and governed by the Apcera Policy Engine.

Apcera has created streamlined ways of encoding policies and binding them to applications, workloads and services by providing an easy-to-use web and command-line interface. Another feature unique to Apcera is the Semantic Pipeline. The Semantic Pipeline mediates connections between applications and services providing ephemeral credentials for communication and policy enforcement regarding which services the applications can access.

The Apcera Platform allows users to run and govern Docker containers or create capsules. A capsule is a conventional Linux operating system that has been containerized. Users can create capsules to install and configure legacy software as well as connect to other applications and services. This lets IT enforce policy even on legacy applications.

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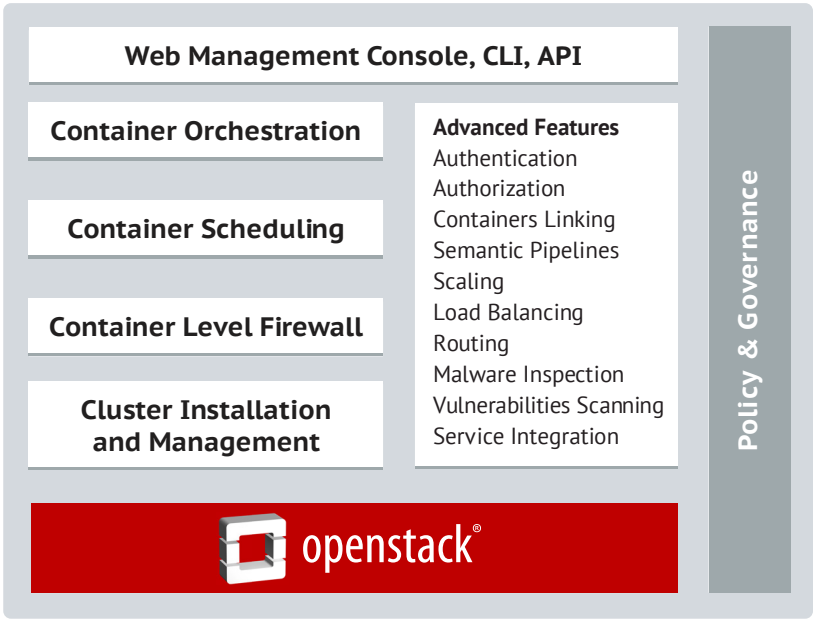
Apcera+Mirantis Joint Solution

Apcera and Mirantis are partnering to facilitate deployment of the Apcera Platform on Mirantis OpenStack providing users with the shortest possible time-to-deploy from bare metal.

- **Accelerated cloud deployment with broad infrastructure support with Fuel.** Use Fuel, the pluggable OpenStack deployer to rapidly configure Mirantis OpenStack, along with infrastructure and technologies from Mirantis' broad Unlocked partner ecosystem, then automatically deploy your OpenStack cluster with self-service technologies like Murano Application Catalog, installed and ready to use.
- **Accelerated PaaS deployment - with Murano.** A free trial edition of Apcera can be downloaded to Mirantis OpenStack's Murano Application Catalog (apps.openstack.org). Only a few clicks of the mouse are required to automatically deploy an instance of Apcera on Mirantis OpenStack.
- **Rapid, full-scale, production PaaS deployment - with the Apcera Orchestrator.** Apcera has developed a simple installer to deploy and scale the platform on any on-prem or cloud infrastructure.



The Apcera Platform is a highly secure, policy-driven platform for cloud-native applications and microservices—as well as legacy applications. Apcera lets dev and DevOps teams use any modern tool or software they want while giving IT the assurance that their infrastructure is safe and secure.

Benefits

Microservices benefits : Apcera's strong emphasis on security and governance significantly reduces operational risks. Administrators can manage every aspect of the Apcera Platform in a flexible and simple manner by deploying a set of policies that govern behavior. Every component is policy-aware and can evaluate and enforce different policies in the platform.

Microservices without risk: The Apcera Platform supports rigorous policy-driven tenant isolation and provides features that can help enterprises scale up microservices with confidence. With built-in support for monitoring applications for malware and powerful policy controls during the build and deployment stage, the Apcera Platform provides a more efficient way to deploy compared to running applications in a non-containerized environment.

Evolve at your own pace: Most organizations will continue to support a combination of legacy VM-based workloads and microservices. The combination of a scalable Mirantis OpenStack combined with the Apcera Platform ensures that an enterprise infrastructure can scale as needed.

Multi Cloud made easy: The Apcera Platform allows enterprises to use on-prem or hosted IaaS with confidence and ease. This flexibility delivers consistency across your business and provides an agile response to usage demands, CapEx reduction and data sovereignty requirements.

Seamless Support

Mirantis and Apcera have structured their partnership to enable seamless support for joint customers by using TSANet (http://www.tsanet.org) to direct and manage escalation.

Resources

- Request Apcera Demo/Download Apcera
- Download Mirantis OpenStack
- Press Release: Apcera Extends Hybrid Cloud Ecosystem to Mirantis OpenStack
- Import Apcera Trial Version Murano Package (OpenStack App Catalog)

About Mirantis

Mirantis is the number one pure-play OpenStack Company. We deliver all the technology, integration, training and support required for companies to succeed with production-grade open source cloud. More customers rely on Mirantis than any other company to scale out OpenStack without the compromises of vendor lock-in.

About Apcera

The Apcera trusted cloud platform delivers fine-grained security and policy linked with enforcement. As a result, Apcera prevents debilitating security breaches and defines precise service access across your entire cloud infrastructure. Learn more at www.apcera.com.