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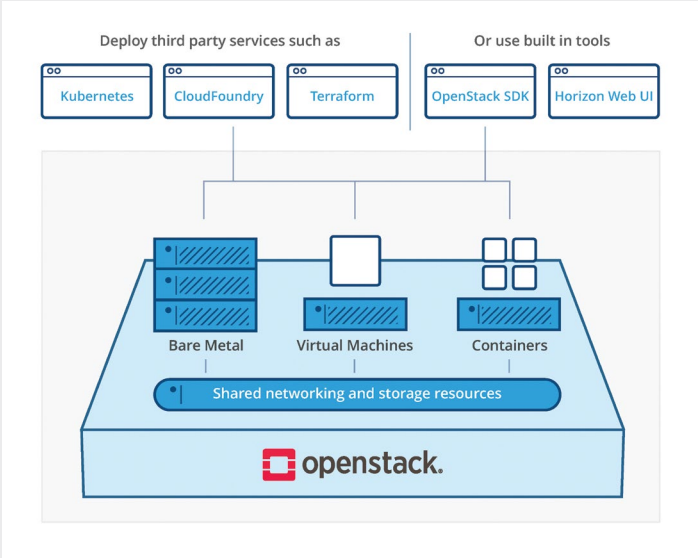
Open Source Software For Creating Private And Public Clouds

About

OpenStack is an open source infrastructure-as-a-service platform for managing virtual machines (VMs), bare metal and containers as well as storage and networking resources. Acting as an abstraction layer, OpenStack supports a wide variety of industry standard compute, storage, and networking hardware, exposing the capabilities through a standard API.

OpenStack gives infrastructure providers a suite of services to meet their users needs—from running high availability VM workloads to enabling bare metal for containers—all on the same set of standardized APIs. Organizations benefit from the flexibility of OpenStack, the freedom from vendor lock-in, the interoperability with the open source ecosystem of commercially supported products and services, and the advantages of openly developed software.



Flexibility

The OpenStack project covers a suite of services, such as compute, networking, storage, container management, bare metal management, orchestration—which can be combined depending on the use case. A high-performance computing (HPC) user doing a proof-of-concept may elect to use Ironic (bare metal provisioning) to boot from RAMdisk without storage services enabled with an OpenStack bare metal cloud. The customizability of OpenStack gives users options to design the configuration they need.

Freedom From Vendor Lock-In

Proprietary public cloud services limit visibility into and control over the underlying infrastructure, and proprietary cloud software limits flexibility and control for private and hybrid clouds. In contrast, OpenStack software has enabled a world of public and private clouds on a common code base, ensuring compatibility, interoperability, and reduced friction when implementing a hybrid cloud strategy, regardless of vendor.

Cross-Project Interoperability

Open infrastructure starts with OpenStack, and users are integrating multiple technologies to achieve their business goals. The OpenStack community is an open source community that actively works with other open source projects to produce interoperability across common platforms, including Ceph, Cloud Foundry, Kubernetes, Open vSwitch, and more.

Open Source Development

OpenStack is licensed under the Apache 2.0 open source license, which means that OpenStack is free to use, free to be modified, including for commercial use, and modifications do not have to be contributed back to the project. OpenStack is supported by the Open Infrastructure Foundation.

Users can influence the technical direction of the project and become directly involved upstream, and are encouraged to bring feature requirements to the upstream community, meet other users with their same need, and collaboratively build a solution.

451 Research estimates the OpenStack market to hit **$7.7 billion USD by 2023**

*OpenStack Market Monitor, 451 Research, September 2019

71 % of service providers are in production or plan to go into production **in the next 12 months***

*451 Research: Voice of the Service Provider

15 million computing cores **deployed around the world***

*OpenStack User Survey

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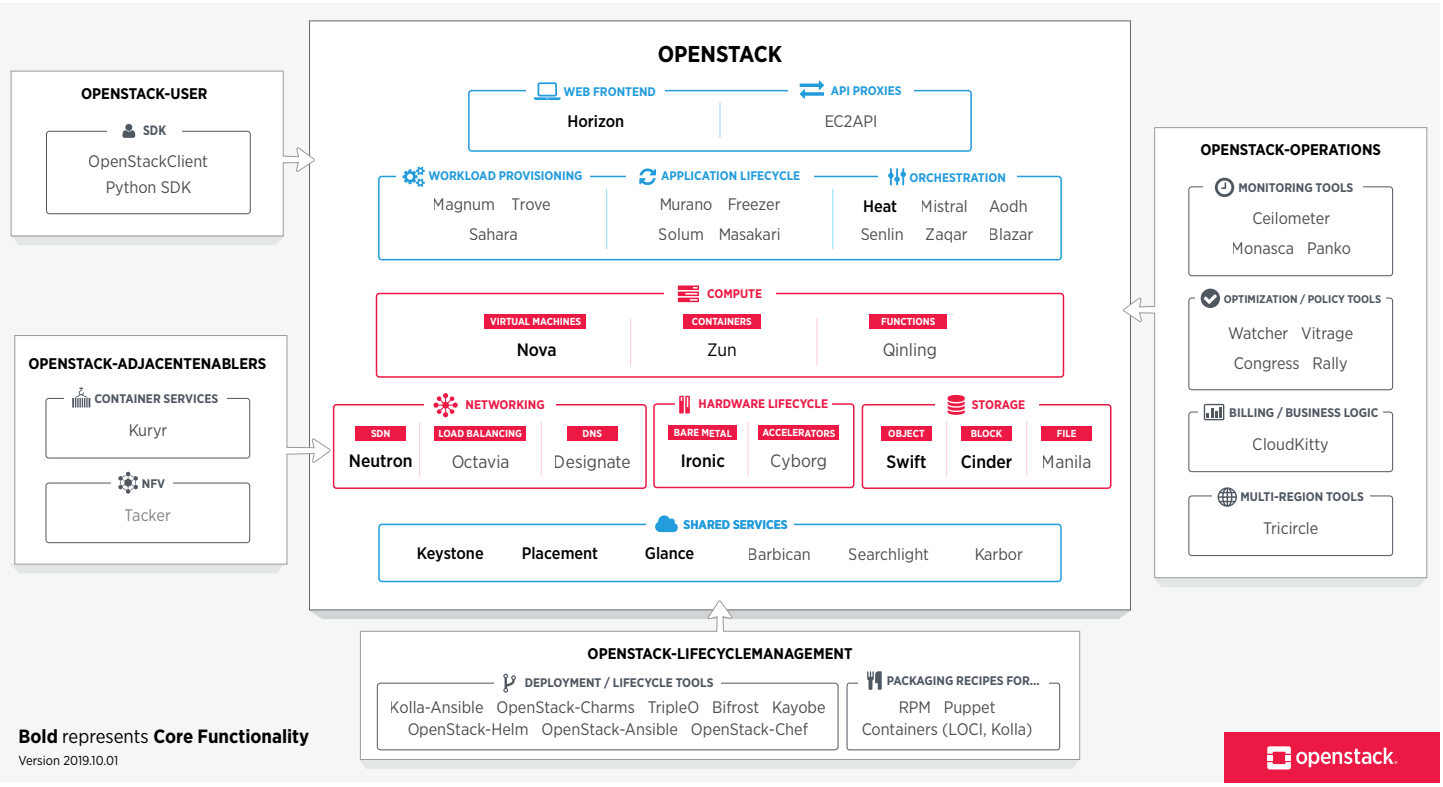
OpenStack Users

OpenStack users are everywhere; your phone, internet, bank, city infrastructure, or healthcare provider are probably powered by one.

User	Benefits
T-Mobile Virtual Network Functions (VNF)	"Working with OpenStack for NFV improved deployment cost and cross functional interaction among different teams. Having OpenStack as a baseline for telecom core systems helps in automation and shortens time-to-market for launching services."
Ontario Institute for Cancer Research Big Data, Research, Community Cloud	"We couldn't offer cancer researchers a cloud environment at this scale and price point if we weren't using open source technologies like OpenStack."
Progressive Insurance Machine Learning, Data Science	Progressive Insurance uses the VIO distribution of OpenStack plus Kubernetes for data analytics and machine learning. They say OpenStack is the standard for their on-premises cloud and provides maximum flexibility to deliver infrastructure as code.
City Network Public Cloud	City Network's OpenStack-powered public cloud is available in eight regions across three continents. All of their data centers are interconnected via private networks.
China Railway Corporation Monitoring, Big Data and Automation	OpenStack powers the monitoring system, which has realized monitoring and alarm for physical and cloud hosts; automated task management system, which has realized automated patrol, patch distribution and other functions; and big data operation and management system, which has provided functions such as monitoring data analysis, log analysis, and reporting and statistics.



Bold represents **Core Functionality**

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