OpenNebula

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OpenNebula is a cloud computing platform for managing heterogeneous distributed data center infrastructures. The OpenNebula platform manages a data center's virtual infrastructure to build private, public and hybrid implementations of infrastructure as a service. OpenNebula is free and open-source software, subject to the requirements of the Apache License version 2.

OpenNebula	
Developer(s)	OpenNebula Community
Initial release	March 1, 2008
Stable release	4.12.1 (http://docs.opennebula.org /4.12/release_notes /index.html) / 11 March 2015
Written in	C++, C, Ruby, Java, Shell script, lex, yacc
Operating system	Linux
Platform	Hypervisors (Xen, KVM, VMware, vCenter)
Available in	English, Russian, Spanish
Type	Cloud computing
License	Apache License version 2
Website	www.opennebula.org (http://www.opennebula.org/)

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Description

OpenNebula orchestrates storage, network, virtualization, monitoring, and security[1] technologies to deploy multi-tier services (e.g. compute clusters[2][3]) as virtual machines on distributed infrastructures, combining both data center resources and remote cloud resources, according to allocation policies. According to the European Commission's 2010 report "... only few cloud dedicated research projects in the widest sense have been initiated – most prominent amongst them probably OpenNebula ...".[4]

The toolkit includes features for integration, management, scalability, security and accounting. It also claims standardization, interoperability and portability, providing cloud users and administrators with a choice of several cloud interfaces (Amazon EC2 Query, OGF Open Cloud Computing Interface and vCloud) and hypervisors (Xen, KVM and VMware), and can accommodate multiple hardware and software combinations in a data center.[5]

OpenNebula was a mentoring organization in Google Summer of Code 2010.[6]

OpenNebula is sponsored by OpenNebula Systems (formerly C12G).

OpenNebula is used by hosting providers, telecom operators, IT services providers, supercomputing centers, research labs, and international research projects. Some other cloud solutions use OpenNebula as the cloud engine or kernel service.[7]

See also

- Nebula (computing platform)
- Cloud computing
- Cloud computing comparison
- Ganeti
- openQRM
- oVirt

References

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3. R. S. Montero, R. Moreno-Vozmediano, and I. M. Llorente. "An Elasticity Model for High Throughput Computing Clusters", J. Parallel and Distributed Computing (in press, DOI: 10.1016/j.jpdc.2010.05.005 (http://doi.ieeecomputersociety.org /10.1016/j.jpdc.2010.05.005))

4. "The Future of Cloud Computing" (http://cordis.europa.eu/fp7/ict /ssai/docs/cloud-report-final.pdf) (PDF). *European Commission Expert Group Report.* 25 January 2010. Retrieved 3 June 2013.
5. B. Sotomayor, R. S. Montero, I. M. Llorente, I. Foster. "Virtual Infrastructure Management in Private and Hybrid Clouds", IEEE Internet Computing, vol. 13, no. 5, pp. 14-22, September/October 2009. DOI: 10.1109/MIC.2009.119 (http://doi.ieeecomputersociety.org /10.1109/MIC.2009.119))
6. "OpenNebula @ GSoC 2010" (http://socghop.appspot.com/gsoc/org /home/google/gsoc2010/opennebula). *Google Summer of Code 2010.* Retrieved 27 December 2010.
7. "Featured Users" (http://www.opennebula.org /community:users). *OpenNebula website.* Retrieved 13 October 2011.

External links

- OpenNebula Website (http://www.opennebula.org/)
- Mark Hinkle (20 January 2010). "Eleven Open Source Cloud Computing Projects to Watch" (http://socializedsoftware.com/2010/01/20/eleven-open-source-cloud-computing-projects-to-watch/). *Socialized Software.* Retrieved 27 December 2010.
- Peter Sempolinski and Douglas Thain, A Comparison and Critique of Eucalyptus, OpenNebula and Nimbus (http://www.cse.nd.edu/~ccl/research/papers /psempoli-cloudcom.pdf), IEEE International Conference on Cloud Computing Technology and Science, November, 2010.

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| Free software programmed in Ruby | Free software programmed in C
| Free software programmed in C++ | Free software for cloud computing

Virtualization-related software for Linux

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