(intel®)

OnApp and Intel Enable Full Deployment of an OpenStack* Platform–based Private Cloud in as Little as an Hour

OnApp integrates OpenStack into its cloud management platform powered by Intel® Xeon® processors.

onapp™

Executive Summary

For modern businesses, private and hybrid clouds are a must-have option for IT. Businesses rely on clouds for workload agility, better utilization of resources, and more ubiquitous access to resources for workers and customers. But getting to a private or hybrid cloud is not always easy. Even though the OpenStack* platform is a popular choice for cloud solutions, it can be complex and time-consuming to deploy and configure. That's why OnApp, a leading cloud management platform provider, now offers a solution for private and hybrid clouds using the OpenStack platform powered by the Intel® Xeon® processor E5 family.

The OnApp* cloud management platform helps enable installing OpenStack in as little as an hour, instead of the days or weeks that might be required otherwise—and without the need for specialized IT staff.[1] And once the solution is configured, deployment can be replicated and scaled easily and affordably using available pay-as-you-grow licensing.

WEEKS >> 1 HOUR

to install a private OpenStack* cloud with the OnApp* platform, compared to without it[1]

The OpenStack Platform Is the Open Source Standard for Cloud Deployments

The reason OpenStack is the cloud platform solution of choice for many companies is that it is built on a proven, reliable, open source foundation. That foundation is a key benefit according to 96 percent of senior IT professionals surveyed by SUSE.[2] The OpenStack platform enables a "build once, deploy anywhere" approach to cloud deployments that avoids vendor lock-in and is widely supported by leading suppliers, including Intel.

Despite its advantages, though, 65 percent of companies report that they found implementing the OpenStack platform difficult on their own.[2] Deployments can be time-consuming, costly, and require skills that might not be available in-house or even readily available for hire. As a result, solutions from a wide range of providers are available to help ease both the installation and management of OpenStack deployments.

A recent addition to the OpenStack solution provider field is OnApp, a cloud industry leader. In 2013, *Network World* dubbed OnApp "the most popular cloud platform you've probably never heard of."[3] Despite the company's relative anonymity, one in three public clouds or more is estimated to run on the OnApp platform.[4] And now, OnApp has developed a deployment and management platform specifically for OpenStack. OnApp initially tested its solution through the Intel® Builders program. The successful results of OnApp's testing have yielded a fully realized, market-ready solution that companies—from small businesses to large enterprises—can deploy today with the OnApp cloud management platform.

OnApp* Software Makes OpenStack Platform Deployment a Breeze

The OnApp cloud management platform for OpenStack is a private-cloud-in-a-box solution that enables businesses to reduce the time to deploy a private cloud from potentially weeks to as little as an hour.[1] By significantly reducing deployment time and complexity, companies can reduce the time to market for their services and apps. They can also eliminate the need to train or hire IT staff for specialized skills.

The entire solution can be deployed in just five steps:

1. Install a base CentOS* ISO image on a blade server to create a control panel server.

2. Download and run the OnApp cloud installation script.

3. Boot the cloud compute servers from the control panel server.

4. Add servers to the cloud by using the OnApp wizard.

5. Configure storage and network settings for the cloud.

Once installed, users have immediate control of the OpenStack environment, which is fully managed from the OnApp platform's intuitive, customizable control panel.

The OnApp control panel's user interface (UI) provides simple, self-service, multi-cloud management of multiple hypervisors, bare metal servers, and Docker* containers. Users can also manage core enterprise functions, including virtual machine (VM) orchestration, software-defined storage (SDS), backup and disaster recovery, users and departments, usage metering, chargeback/showback, and workflow automation with the OnApp solution.
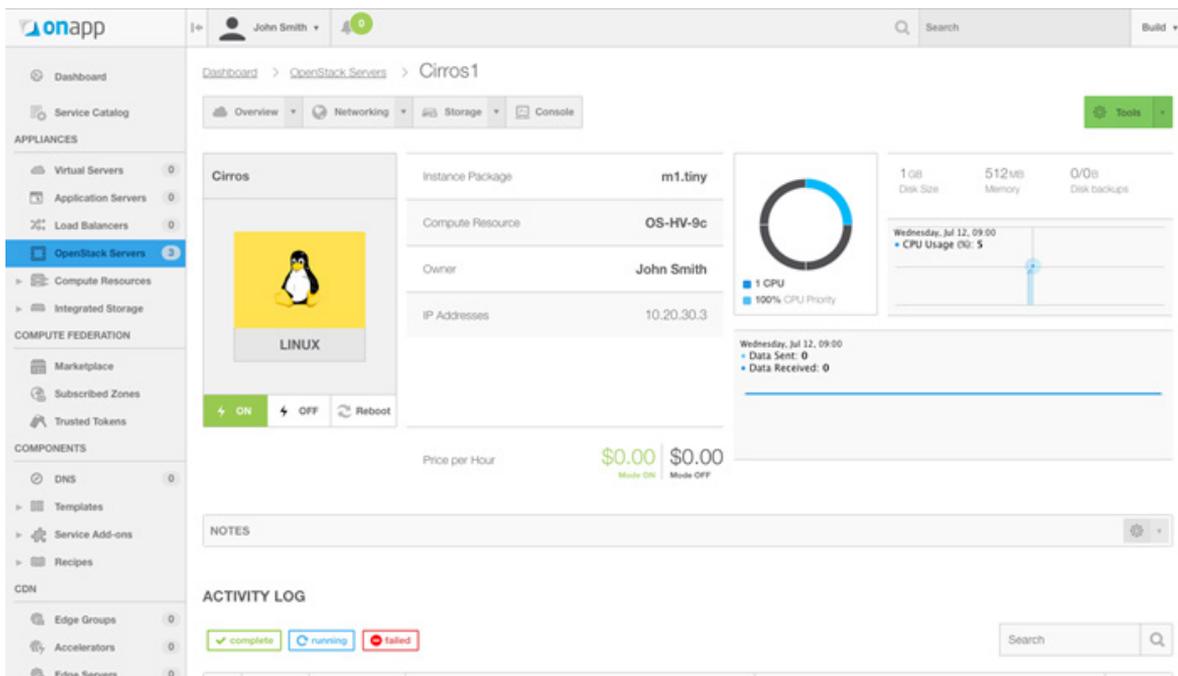

Figure 1. The OnApp* control panel provides a complete view of the cloud infrastructure, with comprehensive management from a single pane of glass

Intel Benefits

The OnApp OpenStack solution uses servers built on the Intel Xeon processor E5 family. Intel Xeon processors are ideal for cloud deployments because they provide increased scalability, automation, and orchestration capabilities across compute, storage, and networking workloads. Each new generation of Intel Xeon processors includes added benefits compared to previous generations, such as a higher core count, enhanced virtualization and orchestration capabilities, and higher memory bandwidth. In addition, Intel collaborates with a broad ecosystem of partners who build and optimize their own software solutions to run on Intel® platforms. As a result, many of the most commonly used apps and services can reach peak performance on Intel processors.

Combining the Intel Xeon processor E5 family with the Intel® Solid-State Drive (SSD) Data Center Family to power the OnApp OpenStack cloud management platform can help future-proof a company's infrastructure. Intel SSDs offer extraordinary performance and reliability, in addition to reduced power consumption compared to traditional hard-disk drives (HDDs).[5]

Solution Details

The out-of-the-box OnApp solution for an OpenStack private cloud includes:

- Servers built with the Intel Xeon processor E5-2630 v3 or newer and direct-attached Intel SSDs

- The OnApp cloud management platform

- The OpenStack software stack (automatically installed and configured by the OnApp solution)

- A KVM CentOS hypervisor (automatically deployed and configured by the OnApp solution)

The full solution stack consists of OnApp management software, servers built on Intel Xeon processors, and the OpenStack platform, which includes:

- An OpenStack distribution controller that uses the OpenStack Compute* (Nova*) service with KVM hypervisor technology

- OpenStack Cinder*, a block-storage solution, integrated with OnApp SDS technology

- OpenStack Neutron*, which provides support for advanced networking capabilities through the OnApp platform

- A range of software functions for data centers, enterprises, and small to medium-sized businesses (SMBs), including core infrastructure services, for cloud, content delivery, storage, and disaster recovery

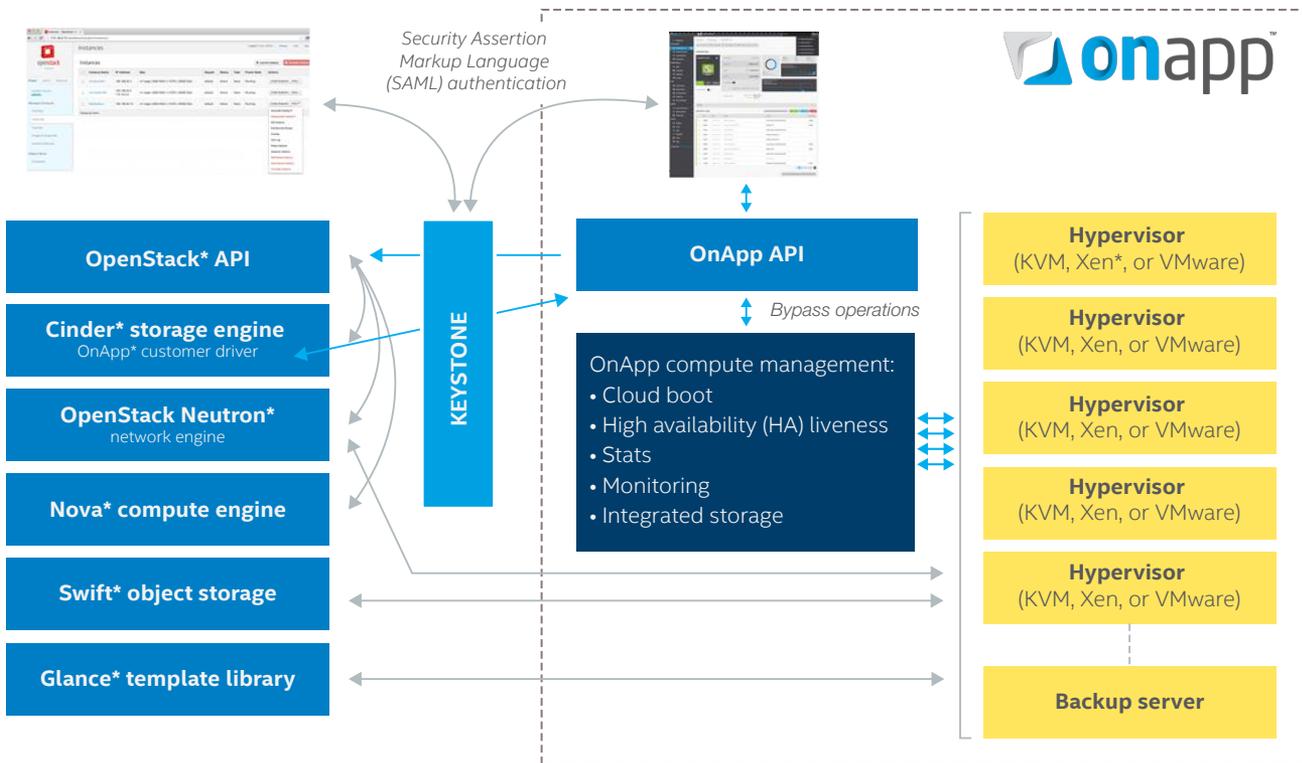In addition, OnApp is developing added support for the OpenStack Glance* and Swift* projects.

Figure 2. Architecture diagram showing OnApp* management and services running on the OpenStack* platform; note that OpenStack Swift* object storage and the Glance* template library are under development for a future release

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Simplify Your Move to OpenStack

OnApp brings a new level of automation and simplicity to OpenStack cloud adoption. The OnApp solution simplifies installation and enables comprehensive control of the OpenStack platform through the OnApp cloud management platform, which is used in one out of every three public clouds.[4] The OnApp cloud management platform has been deployed by more than 3,500 companies in 93 countries throughout Europe and the United States, and it will continue to grow in popularity as SMBs and enterprises discover that they can now quickly migrate their data centers on an OpenStack cloud environment.

About OnApp

OnApp offers a ready-to-deploy cloud management software platform for service providers and enterprises. The OnApp cloud management platform enables hosts, telecommunications companies, and service providers to add more scale and geographic reach on demand using the OnApp* Federation—a global network of cloud and content delivery network (CDN) infrastructures. OnApp provides turnkey solutions for on-premises private clouds that enable IT departments to automate infrastructure management, reduce support costs, and simplify provisioning.

Learn More

See how Intel architecture is helping other businesses deploy open, hybrid clouds built on the OpenStack platform: **https://01.org/openstack**.

Learn which Intel Xeon processor or Intel SSD is best suited to your hybrid cloud computing needs at **intel.com/xeon** and **intel.com/datacenterssd**.

The Solutions Library on the Intel Builders home page can help you find reference architectures, white papers, and solution briefs like this one, which can help you build and enhance your data center infrastructure: **https://builders.intel.com/solutionslibrary**.

Follow Intel Builders on Twitter* by using **#IntelBuilders**.

To learn more about the OnApp cloud management platform, visit the OnApp home page at **https://onapp.com** or schedule a demo by visiting **https://onapp.com/demo**.

[1] Based on internal testing. Differences in hardware, software, or configuration will affect actual performance.

[2] SUSE. "New Research Shows OpenStack Adoption Strong, But Complexities Remain." January 2016. http://suse.com/newsroom/post/2016/new-research-shows-openstack-adoption-strong-but-complexities-remain/.

[3] *Network World*. "OnApp: The Most Popular Cloud Platform You've Probably Never Heard Of." February 2013. http://networkworld.com/article/2163667/cloud-computing/onapp--the-most-popular-cloud-platform-you-ve-probably-never-heard-of.html.

[4] Numbers originally derived from analyst estimates done by the 451 Group of the total number of public clouds and then the number of OnApp* clouds deployed as a percentage of that number at the time. Also see "OnApp cloud cover reaches a third of the world," https://onapp.com/2013/03/19/onapp-cloud-cover-reaches-third-of-the-world/.

[5] Intel. "Accelerating Data Center Workloads with Solid-State Drives." July 2012. intel.com/content/dam/www/public/us/en/documents/best-practices/accelerating-data-center-workloads-with-ssd.pdf.

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