Make Datacenter Infrastructure Invisible, Elevating IT to Focus on Applications and Services

SUSE OpenStack Cloud allows IT organizations to give users the IaaS experience they would get with the public cloud. Integration of SUSE OpenStack Cloud and Nutanix allows for the use of Nutanix in an OpenStack-powered cloud. The combination provides users with the best of both worlds: OpenStack's open API for provisioning automation, and the ease of operations provided by the industry leading enterprise cloud player. This allows for building private or public clouds that deliver performance and ability at low cost.

Nutanix integration with SUSE OpenStack Cloud provides complete automation with Nova, Cinder, Glance, and Neutron drivers.

+ *Nova and Cinder integration provides for establishing network access rules, setting up storage and launching VM instances.*
+ *Glance Image Service support provides for retrieval of base or OS images and interaction with Glance (via Acropolis driver) to maintain image data on the Nutanix Distributed Storage Fabric (DSF).*
+ *Neutron Networking is supported to setup network topology using the SUSE OpenStack Cloud dashboard. Users can establish Neutron services with Nutanix and manage via the Nutanix Prism interface or Nutanix Acropolis APIs*

The Challenge
IT organizations are in a state of transition as they modernize legacy infrastructure, tools and processes to keep pace with business demands. While public clouds promise instant value, they are not ideal for all use cases and are often too expensive in the long run. IT leaders are looking for a hybrid cloud solution that combines the simplicity and scale that public cloud offers, but with better economics for lower overall TCO, customization for application-driven SLAs, and a single hyperconverged infrastructure to run all applications.

The Solution
Reliable performance
Nutanix, combined with SUSE OpenStack Cloud allows customers to marry the benefits of public cloud-like agility, productivity, and cost models, with the predictability and data controls of an on-premises environment. These allows IT teams to shift to projects that are value additive to the business, instead of just relegating those teams to infrastructure management tasks where they are "keeping the lights on."

The Nutanix architecture provides for easily growing the compute and storage resources for SUSE OpenStack Cloud when the need arises. Users can start very quickly with a small environment and scale-out in minutes when additional resources are required. Scaling out is a matter of powering on the Nutanix nodes, adding them to the Nutanix cluster via Prism one-click expansion, and automatically making them available to the SUSE OpenStack Cloud environment. Since each Nutanix node has a CVM that participates in the web-scale core of the Enterprise Cloud OS, there are no performance bottlenecks for OpenStack instances nor to the storage fabric when scaling out. This is linear and predictable performance scaling.

Operational insights
Nutanix Prism includes a machine learning engine that forecasts the capacity needs of applications running in the SUSE OpenStack Cloud environment, giving the administrators the ability to proactively plan for infrastructure needs.

Prism continuously monitors usage of CPU, memory and storage across the cluster and accurately predicts when a cluster will run out of resources, known as a capacity runway.

Cloud-like datacenter planning

Prism's Just-In-Time Forecast capability precisely sizes for future workload growth based on past, current and future workload demands, then recommends a capacity expansion schedule based on when and what infrastructure will be needed. Advanced what-if modeling is possible with just a few clicks.

How It Works with SUSE

Each Nutanix cluster is represented as one Nova-Compute object in SUSE OpenStack Cloud, providing all the enterprise benefits of Nutanix AHV, and the built-in virtualization feature of Nutanix. SUSE OpenStack Cloud users don't have to think about where to provision OpenStack provisioned applications.

With the AHV Acropolis Dynamic Scheduler, household activities such as moving instances to other virtualization hosts is a thing of the past.Nutanix ensures applications are hosted on the correct AHV nodes across the environment.
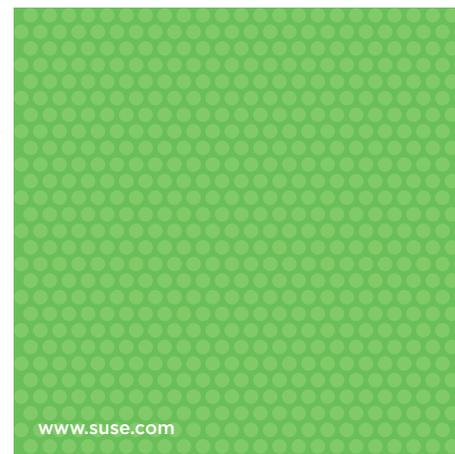
For More Information

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https://www.nutanix.com/what-we-do/

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https://www.nutanix.com/company/

Nutanix YouTube Channel
https://www.youtube.com/user/Nutanix

Nutanix Vimeo Channel - Education
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Nutanix Bible (technical)
http://nutanixbible.com/

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Admin Node	Control Node	Compute Node
SLES	SLES	SLES
Chef Server	Database	OpenStack Compute / Nutanix Nova driver
Crowbar	Message Queue	
Software Mirror	OpenStack APIs	
DHCP/TFTP	OpenStack Dashboard	
	OpenStack Scheduler / Nutanix Neutron driver / Keystone / Nutanix Glance driver / Image Repo / Nutanix Cinder driver	

REST

Nutanix Cluster   Nutanix Cluster

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