Modern Monitoring and Analytics for SUSE OpenStack Cloud

Datadog is the essential monitoring service for cloud-scale applications. The platform assists organizations in improving agility, increasing efficiency and providing end-to-end visibility across dynamic or high-scale infrastructures. Datadog automatically collects metrics and events from applications as they come and go in a SUSE® OpenStack Cloud cluster, as well as from over 200 out-of-the-box services and technologies. Start monitoring with Datadog in minutes to accelerate go-to-market efforts and ensure application uptime.

Datadog at a Glance:

+ *200+ vendor supported integrations*
+ *Built for both dev and ops teams*
+ *Designed for dynamic & hybrid infrastructures*
+ *Actionable data-driven alerting*
+ *Infinite scalability*
+ *Granular metric collection with long-term retention*
+ *Quick, easy deployment and management*
+ *Fully API-controlled and automatable*

The Monitoring Challenge

Monitoring your company's applications or services, whether on-premise or in the cloud, is hard. There are dozens or more commands to run, which result in hundreds or thousands of metrics and events. Scaling this out to encompass your entire infrastructure means an increasing number of data points by orders of magnitude. The resulting data set will be so large, it's impossible to keep an eye on everything. And DevOps isn't just about seeing what's going on right now; you have to be able to correlate the data points from many sources to fully understand the story. To get the most out of your OpenStack monitoring, you need a way to correlate what's happening in OpenStack with what's happening in the rest of your infrastructure.

Vendor Supported Integrations

Datadog's OpenStack integration provides immediate, in-depth visibility into all critical components of the cloud-computing software platform including:

- *server metrics such as CPU and RAM utilization or disk read requests*
- *current workload (a count of all the Build, Snapshot, Migration, and Resize operations currently active)*
- *number of virtual machines and instances running*
- *hypervisor metrics*
- *project/tenant metrics like image, personality, and security group information*
- *message queue metrics*
- *notifications (such as when a new compute instance is created)*

These metrics can be used to understand the load and availability of Nova nodes making up your SUSE OpenStack Cloud cluster. Additionally, Datadog provides up/down information for OpenStack's network fabric controller Neutron, and the identity management and access control layer Keystone. Datadog automatically collects all of these key metrics, and makes them available in out-of-the-box dashboards.

OpenStack deployments often rely on databases, load balancers and other components. Datadog provides out-of-the-box visibility across over 200 applications and services from SaaS and cloud providers to automation tools, source control and bug tracking. Correlating what's happening in OpenStack with all of these other datasets enables organizations to avoid costly outages, improve agility and deliver faster.

Data-Driven Alerting

Systematically collecting monitoring data serves two broad purposes: alerting operators in real-time to issues as they develop (alerting), and helping to identify the root cause of a problem (diagnosing). With Datadog, you get actionable alerts in real-time, so you can respond to issues as they emerge, plus the high-resolution metrics and historical perspective that you need to dive deep into diagnosing the root cause of an issue.

"Lithium uses Datadog to monitor all aspects of our OpenStack deployment, from the low-level infrastructure to the high-level tenant usage. We are able to quickly gain insight into usage patterns and proactively react to any potential issues. By comparing current usage to historical trends we are able to at a glance do capacity planning for a tenant. As we add new components to our stack, Datadog continues to innovate so that we always know what is happening in our infrastructure."

MIKE TOUGERON
Lead Cloud Platform Engineer
Lithium Technologies

Datadog can monitor individual hypervisors, instances, containers, services, and processes—or virtually any combination thereof. For instance, you can monitor all of your Nova nodes, or all hosts in a certain availability zone, or a single key metric being reported by all hosts corresponding to a specific tag. In addition to standard threshold and up-time alerting, automatically detect outliers, anomalies and disruptions on any metric with machine learning algorithms before customer performance is impacted.
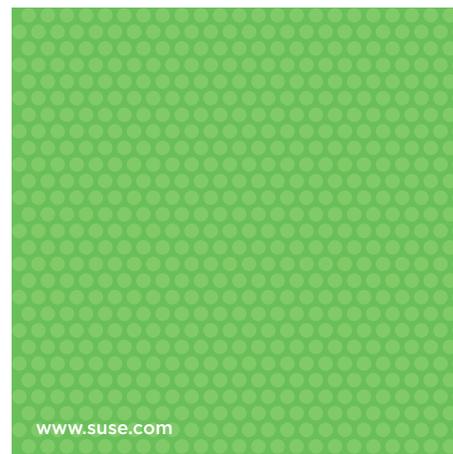
Gain Better Insight with Datadog

Visibility into OpenStack's resource consumption is essential to ensuring smooth-operation and preventing user frustration. A lack of available memory or VCPUs for example, prevents provisioning of additional instances and often leads to performance degradation of applications. Datadog addresses this by providing a much broader range of available statistics versus OpenStack Horizon:

With Datadog Screenboards, engineers can combine the historical perspective of graphed timeseries data with alert values across their entire stack, to put current operations metrics in context.

Using Datadog's Change Graphs feature, engineers have a bird's eye view of week-to-week changes in resource usage. By analyzing resource deltas, engineers and decision makers have the data they need to inform hardware purchasing decisions and perform diligent capacity planning.

Track the number of instances used per project to get a better idea of how resources are being used and rein in excessive or unnecessary usage to free up resources without resorting to installing additional hardware.

For more information visit: **www.datadoghq. com/monitor-openstack/**