rackspace.

RACKSPACE MANAGES THE SCALE AND PERFORMANCE OF PRIVATE CLOUD SERVICES WITH JUNIPER APPFORMIX

Summary

Company:
Rackspace

Industry:
Web Services

Business Challenges:
As customers transition more applications to private cloud, traditional monitoring tools aren't able to provide sufficient insight and action.

Technology Solution:
AppFormix

Business Results:
- Provide deep insight into the cloud while analyzing private cloud performance with machine learning in real time
- Improve capacity planning by identifying underutilized, monopolized, and abandoned cloud resources
- Offer premium private cloud monitoring services to enterprise customers

Rackspace's culture of innovation is embodied in its global headquarters—an abandoned shopping mall in San Antonio, Texas. Known as the Castle, the mall has been transformed into an open, vibrant space that propels the company's leadership in managed cloud services. Rackspace's commitment to the community is revitalizing a once downtrodden area, too. Rackspace is the largest managed cloud provider, with expertise across VMware, Microsoft Azure, and Amazon Web Services, and according to 451 Research, Rackspace is the world's leading OpenStack service provider. In fact, Rackspace has reached more than one billion server hours of operations for OpenStack clouds.

Business Challenge

"Enterprises have progressed in their understanding and ability to capitalize on cloud, moving from seeing the value of private cloud to supporting application developers to a full embrace of greenfield cloud-native apps, and now to moving legacy apps to the cloud," says Bryan Thompson, senior director and general manager of OpenStack Private Cloud at Rackspace. "During that evolutionary period, OpenStack has matured into highly stable software with unlimited potential to support and complement emerging technology and enterprise needs."

As more clients transitioned their applications to OpenStack private clouds, Rackspace found that traditional monitoring tools weren't sufficient. "With OpenStack, the challenge was to run and operate cloud at scale," says Thompson. "The monitoring system we used was a canary in a coal mine, but it didn't provide our operators with insight into the cloud—how is the cloud performing, how are services performing, proactive capacity planning, and where are the hot spots in the cloud. We had an opportunity to improve our service."

Technology Solution

Rackspace embarked on an exhaustive evaluation and proof-of-concept testing of third-party monitoring tools. Ultimately, Rackspace chose Juniper® AppFormix® for real-time monitoring and analytics to improve application performance and scale for its OpenStack private clouds.

"AppFormix gives us an at-a-glance view that is as simple as red, yellow, and green to see if we have problems."

- Bryan Thompson, Senior Director and General Manager of OpenStack Private Cloud, Rackspace

"The graphic capability of the AppFormix dashboard makes it easy to visualize across multiple layers, from the physical nodes up to the OpenStack services and into the hypervisor view—with a tenant-level view," says Thompson. "AppFormix provides our operators with a real-time actionable insight into what the cloud is doing."

With AppFormix, the operations team has a quick and intuitive overview of the health and project risk of the cloud infrastructure and its workloads. "We like the way AppFormix can understand and present OpenStack services," he says. "It's one thing to get data, but it's different to visualize it and make sense of it in real time."

With AppFormix, Rackspace can create an intent-driven cloud, with the ability to visualize, analyze, and automate cloud applications and resources. Machine learning is used to dynamically learn and baseline the performance of applications and infrastructure elements, generating alarms when metrics deviate from historical trends that exceed a user-configured tolerance level. State-of-the-art telemetry and management across software-defined infrastructure and application software layers deliver real-time and historic monitoring, performance visibility, and dynamic optimization to improve cloud automation, security, accounting, and planning.

"AppFormix gives us an at-a-glance view that is as simple as red, yellow, and green to see if we have problems—across the physical infrastructure, OpenStack, or workloads, including at the tenant level," says Thompson. "We can see hot spots, services that are not performing as expected, and who's being affected so we can mitigate it. AppFormix is an incredibly effective tool for our operators."

Business Results

Rackspace leverages Juniper AppFormix to deliver market differentiating private cloud services. "AppFormix is helping us provide better service to our customers," says Thompson.

AppFormix enables Rackspace to analyze how customers consume their cloud resources with machine learning, and that helps the account team be proactive about capacity planning. "Our customers are trying to find the right balance between having enough capacity to deal with growth and the new things they're trying to do, but also use their resources as effectively as possible. AppFormix gives us that ability and gives our customers good insight into how and where to strike that balance," says Thompson.

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- Bryan Thompson, Senior Director and General Manager of OpenStack Private Cloud, Rackspace

With AppFormix, operators can identify underutilized, monopolized, and abandoned resources. For instance, the operations team helped one Rackspace customer identify several hundred virtual machines (VMs) that had been abandoned, so the company could reclaim those resources. The operations team also uses AppFormix to find hot spots, where one physical server may have a higher number of high workload VMs, and proactively address the performance issue. "AppFormix's insight, provided in a very simple view, allows us to quickly identify hot spots and take remedial action," says Thompson.

Next Steps

Just as Rackspace broke new ground transforming an empty shopping mall into a dynamic global headquarters, the company is forging a new path for managed cloud services. One next step is enabling customers to directly monitor its OpenStack private cloud through AppFormix. With the new monitoring service, a customer's IT team will have visibility into the performance of its application tiers and virtual instances. Rackspace also is working to offer premium services that will provide chargeback and showback for private cloud that will tap into the AppFormix data. "For the customer, the cloud won't be a black box anymore," says Thompson. "They can monitor and alert as fits their business."

For More Information

To find out more about Juniper Networks products and solutions, please visit www.juniper.net.

To find out more about AppFormix, please visit http://bit.ly/appformix.

To try out AppFormix sandbox risk free, please visit juniper.net/tryU.

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Juniper Networks brings simplicity to networking with products, solutions and services that connect the world. Through engineering innovation, we remove the constraints and complexities of networking in the cloud era to solve the toughest challenges our customers and partners face daily. At Juniper Networks, we believe that the network is a resource for sharing knowledge and human advancement that changes the world. We are committed to imagining groundbreaking ways to deliver automated, scalable and secure networks to move at the speed of business.

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