Red Hat

The world's leading provider of open source software uses Ravello to provide product certification and training to customers across the globe.

Red Hat is at the forefront of open source software development for enterprise IT, with a broad portfolio of products and services being used by more than 90% of Fortune 500 companies. In collaboration with an ecosystem of IT leaders, developers, and partners, Red Hat continues to increase its leadership in the open source world.

The Global Partner Enablement (GPE) team is responsible for partner sales and technical enablement for Red Hat's cloud and infrastructure offerings with a focus on how to sell, promote, install, configure, and troubleshoot. This includes remote learning or classroom training on-site at partner locations for the Red Hat portfolio of products, including cloud and virtualization software such as Red Hat Enterprise Virtualization, Red Hat Enterprise Linux, Red Hat Enterprise Linux OpenStack Platform, and OpenShift by Red Hat.

Red Hat Training Requirements

Helping Red Hat partners stay up-to-speed on the latest and greatest Red Hat technology starts when the Red Hat product is still in beta or even in alpha. The team builds a training session with the goal of:

- Covering as many features as possible in the training course to make sure that partners are exposed to all the functionality
- Designing the course within the constraints of the limited hardware that will be available for delivering the training.

Once the training course has been designed and prepared it is rolled out to all the partners and delivered as quickly as possible – often in advance of product launches.

Challenges faced

As the Red Hat GPE team looked at improving and accelerating their training delivery to partners, they identified some key challenges.

1. Hardware-dependency

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ASAF WAIZMAN
MANAGER SOLUTION ARCHITECTS
GPE, RED HAT

HIGHLIGHTS

Red Hat GPE is responsible for partner sales and technical enablement for Red Hat's cloud and infrastructure offerings Red Hat Enterprise Virtualization, Red Hat Enterprise Linux, Red Hat Enterprise Linux OpenStack Platform, and OpenShift by Red Hat.

Key challenges in improving training delivery to partners: hardware dependency, public cloud limitations, and inflexible delivery model

SOLUTION

Red Hat uses Ravello to run OpenStack/KVM, Red Hat

ORACLE

Sometimes they used their own hardware and sometimes relied on partner hardware for classroom training. In either case, they could only train a limited number of people at a time depending on how much hardware was available, an issue that made bursts of demands for partner training more difficult to manage. The hardware-based classroom training also limited the scope of the class to a certain number of features and functionality based on expected hardware availability.

2. Public cloud limitations

Red Hat GPE considered using traditional public clouds to augment their training programs, but those offerings could not accommodate some of the advanced configurations, including the ability to run hypervisors such as nested KVM. This meant OpenStack training courses would have to be done with qemu instead of KVM – leading to lower performance and trainee experience.

3. Cumbersome and inflexible delivery model

Once the course had been designed, it typically took at least a day of setup per class. Additionally, the students did not have the flexibility to spin up and tear down environments as part of the course.

Solution: Run OpenStack/KVM, RHEV/KVM, RHEL and OpenShift environments on the cloud

Ultimately, Red Hat found Ravello to be an attractive solution that would do away with hardware constraints and solve their challenges. This would enable them to deliver training courses faster, to a broader set of global partners and create a better experience for both the trainers and the students. Thanks to Ravello's unique technology it is possible to do certain new things that couldn't be done before:

- Install hardware-accelerated hypervisors such as nested KVM on the public cloud supporting Intel VT or AMD SVM. This enables OpenStack guests to run at full speed even though the hypervisors run nested on a different virtualized environment in the cloud.
- Implement private tenant networks using VLANs offering full Layer-2 access to the guests while at the same time giving full separation and isolated environments.

"When I heard about Ravello, I knew that the ability to run hypervisors in the cloud, such as nested KVM on AWS, would be useful but it's that, coupled with the advanced networking capabilities, that really hit home for us," said Asaf Waizman, Manager Solution Architects, GPE. "We have now saved a blueprint of our OpenStack course in Ravello – including multiple nodes with KVM and advanced networking. Each time we need to deliver a course we instantly spin up and tear down hundreds of these training lab environments, comprising thousands of VMs in parallel – without worrying about capacity planning, or about the time required to set it up." Additionally, Asaf was impressed with Ravello's responsiveness and ability to partner with them to support their difficult requirements.

Enterprise Virtualization/KVM, Red Hat Enterprise Linux and OpenShift environments on Amazon Web Services for their global partner training.

Result with Ravello: Virtual training lab on the public cloud

Now, the Red Hat GPE team has “blueprints” of multi-node OpenStack, Red Hat Enterprise Virtualization, Red Hat Enterprise Linux and OpenShift in Ravello and can spin up hundreds of multi-node virtual lab environments in parallel, making use of the extensive capacity of the public cloud. Given the success of the initial training classes, they have expanded their use to several other courses for partners and end users in their broader cloud and virtualization product portfolio. For the business, the bottom line is that Red Hat can now:

- Scale global partner and end-user training based on interest and fulfill training demand in any geography
- Train partners faster for new product releases to help them become more productive faster
- Cover the full range of features and functionality in every training
- Be significantly more cost-effective than having dedicated hardware lying around underutilized when classes are not in session
- Avoid being capacity constrained during bursts of training cycles around product releases
- Reduce time to set up each class down from one day to a few minutes.
- Enable self -service access to live virtual lab environments for their students leading to better learning.