OpenStack @ 10:

Red Hat's take on a decade of customer defined clouds and an update on Red Hat OpenStack Platform

From the early days, Red Hat has supported the OpenStack project and we've built a platform of our own with Red Hat OpenStack Platform. This month, we look back at how far OpenStack has come in the last 10 years, how Red Hat has contributed and lastly, we celebrate the general availability of our next version with Red Hat OpenStack Platform 16.1, available later this month.

In the beginning

The year: 2010. The planet: Earth. The internet: booming. As humans advance technologically - our home shrinks and we become more connected to each other than ever before. At the heart of this beats the infrastructure - some public, some private. As the need for applications and services grew (and continues to grow), the requirements for the infrastructure that powers them grew alongside them.

While technology matures, customers now expect individualized, tailored experiences and these require applications running on infrastructure that is just as unique. This need brought the open source community together, not just to address these needs, but to also deliver an open cloud built from commodity parts, open standards and community blueprints. The community wanted to provide the tools for organizations to control their own destinies outside of large, proprietary cloud providers, and thus, in 2010, OpenStack was born.

Red Hat began working on the project in 2011, and by 2013 Red Hat OpenStack Platform was launched alongside the Grizzly (G) release.

Walk, run, cloud

By 2014, Red Hat was already a major contributor to the project. This not only brought enterprise support from a heavily-invested contributor, but also helped drive community input from customers who may not otherwise have participated. The increasing diversity and chorus of voices within the community helped bring forth new projects and features to solve problems. In addition, the introduction of Red Hat OpenStack Certification widened industry support, launching with more than 100 tech industry leaders as members.

The Icehouse (I) and Juno (J) releases coincided with Red Hat OpenStack Platform's three-year support life cycle, launched with Red Hat OpenStack Platform 5. This meant that enterprises could choose a platform and standardize on it for an extended period, providing stability for the

workloads that need it. Red Hat OpenStack Platform 6 kept the ball rolling with more than 700 enhancements, updates and changes to the platform as it continued to grow and mature.

Red Hat OpenStack Platform 7, based on the community's Kilo (K) release, brought greater ease of use and management enhancements including Director (based on the TripleO project and still used to simplify deployments today). High availability, greater security control, network flexibility and backup enhancements further established OpenStack as an open private cloud that customers could create to fit their unique needs.

IT evolution, built in the open for the hybrid cloud

As enterprise needs for private and hybrid cloud computing evolved, so too did the OpenStack community and Red Hat OpenStack Platform along with it. Building on the Liberty (L) release, Red Hat OpenStack Platform 8 focused on management, networking, compute and storage. It also improved Network Function Virtualization support, enabling the platform to power communications networks for leading providers. Red Hat OpenStack Platform 9, based on the Mitaka (M) release, continued to build on its core competencies with updates to TripleO, Nova and Cinder.

Each successive version of Red Hat OpenStack Platform -- 10, 11, 12, 13, 14, 15 and 16 -- brought new features such as longer life support, greater networking capabilities, a containerized control plane, software defined storage enhancements, Kubernetes integration though OpenShift, hardware support for vGPU and more.

The here and now: Introducing Red Hat OpenStack Platform 16.1

This year, Red Hat unveiled Red Hat OpenStack Platform 16, which set the stage for the long life support and stability to meet the needs of enterprises and telcos. By standardizing on a single platform version, customers are able to focus on innovation - not maintenance and upgrades. The platform also makes day 2 management tasks easier with enhancements to the Service Telemetry Framework.

Available later this month, Red Hat OpenStack Platform 16.1 will be the newest version of our highly scalable and agile cloud Infrastructure-as-a-Service (IaaS). It builds on a long life, Red Hat Enterprise Linux 8-powered platform and adds new features that extend the platform's efficiency, manageability and scalability, including:

- Enhancements to OpenStack's use at the edge with distributed compute nodes (DCN): Edge computing has become front and center for many organizations trying to drive differentiation in crowded markets. DCN further extends the ability to use Red Hat OpenStack Platform as an edge computing platform with the addition of storage support and more granular monitoring to the edge of the network with Service Telemetry Framework.

- Increase manageability though multistack deployment and support for multiple cells: As workloads increase in size, so too must the underlying cloud and its infrastructure. Multistack deployment support helps reduce complexity and hardware requirements by allowing a single Director instance to run multiple production clouds. Fewer instances can mean a reduction in resources spent on hardware that does not directly contribute to revenue. In addition, multiple cells help remove single points of failure in large regions. When applications require more, Red Hat OpenStack Platform delivers more.
- Enhanced efficiency from config download and SR-IOV: More resources spent managing and deploying a cloud can now be repurposed to focus on driving innovation. Thanks to config download, automation tasks can be more focused and run only where needed - reducing the overall deployment workflow and number of required frameworks. Even after deployment, efficiencies from SR-IOV and the ability to live-migrate pinned instances further reduce planned downtime during lifecycle changes such as upgrades and maintenance, keeping critical workloads more readily available.

Where can I learn more?

On July 14th, at 12p ET (9a PT) we are hosting a webinar covering Red Hat OpenStack Platform 16 which will be on demand for the next year. Bring your questions to ask our product managers directly!

We also have a variety of different use cases that highlight the strength of OpenStack including:

How Turkcell is building an NFV platform

How Rakuten Mobile is creating a Cloud Native Mobile Network

How Vodafone Idea Limited is building an open cloud to control their future

How Cathay Pacific is leveraging a hybrid cloud

How Orange Egypt sped up time-to-market by 10x

How O2 Slovakia brings innovation to market faster

How Public Health England limits proprietary lock-in

The OpenStack community has successfully worked together to bring the project to maturity, and Red Hat is proud to have been a part of it for so many years. Cheers to the next decade!

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