

Wellcome Trust Sanger Institute Launches Science-as-a-Service and On-Demand Computing Capabilities Based on Red Hat's Open Technologies

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A Leader in Genome Sequencing and Research Taps Red Hat OpenStack Platform and Red Hat CloudForms to Provide Highly-Available, Scalable Cloud Computing Solutions

RALEIGH, N.C.--(BUSINESS WIRE)-- Red Hat, Inc. (NYSE:RHT), the world's leading provider of open source solutions, today announced that the Wellcome Trust Sanger Institute, a world leader in genome research, has standardized its cloud computing systems and services on Red Hat OpenStack Platform and Red Hat CloudForms. This has enabled the Institute to offer and more effectively manage scientific computing at scale, or "Science-as-a-Service," to their own researchers and to biosciences start-ups co-located at a newly-opened research facility on the Wellcome Genome Campus.

Based in Cambridge, England, the Wellcome Trust Sanger Institute is a global center of excellence for genomic discovery, and collaborates with start-ups, pharmaceutical enterprises, governments and other research centers. The very nature of the Sanger Institute's work is data-intensive, as the organization sequences large numbers of DNA samples to look for variances and needs to be able to turn these results into shareable, accessible data to further global research projects.

To achieve the computational power required for these tasks, the Sanger Institute traditionally relied on clustered computing infrastructure, but this set-up proved inflexible and unsuitable for collaboration with other organizations. This desire for collaboration was quickly becoming a necessity, as the Institute wanted to work more closely with several biotechnology start-ups based on Sanger's campus. The Institute wanted to make it easier for internal and external users to run heterogeneous workloads in a safer and more secure environment and call on resources with a single button click. With this "Science-as-a-Service" offering, the Sanger Institute wanted to simplify collaboration globally and on the Wellcome Genome Campus, but it needed to enhance its computing infrastructure to do so.

The Sanger Institute wanted to base its Science-as-a-Service offering on open standards and open source technologies, including OpenStack as a private and hybrid cloud infrastructure. The Institute also wanted a partner to help support this infrastructure and one that had experience in building large-scale deployments on a tight timeline, as it wanted this service launch to coincide with the opening of its new research facility. To help address all of these needs, the Sanger Institute turned to Red Hat, the world's leading provider of open source solutions and one of the largest contributors to the OpenStack project.

Built on Red Hat OpenStack Platform, the Institute's service catalog offers internal users and Wellcome Genome Campus tenants with options of gold, silver and bronze service levels, each offering a different mix of services and applications to help meet unique scientific needs. Additionally, the Sanger Institute uses Red Hat CloudForms, Red Hat's award-winning hybrid cloud management offering, to oversee and control this complex environment and to help deliver a consistent user experience.

Red Hat Consulting worked in close collaboration with the scientific computing experts within the Sanger Institute to help implement its new OpenStack-based solution in time for the opening of its new facility. With only three months to build and launch the offering, Red Hat Consulting provided the Institute with additional skills and experience required to not only meet this deadline, but to also establish practices around their new infrastructure and assisting with implementation of the services that went along with it, like CloudForms integration, usage billing and tenant account management.

The Institute's Science-as-a-Service offering is now in place and fully operational, with five tenants in place at the new research facility. The Institute's catalog encompasses three petabytes of storage, 6,000 processor cores and 100 gigabit networking, with the ability to add more as new projects and collaboration opportunities emerge.

Supporting Quotes

Tim Cutts, Ph.D., head of Scientific Computing, Wellcome Trust Sanger Institute

"Red Hat OpenStack Platform allows users to create and share virtual machine images of their own creation and to find and spin up images from elsewhere. This means that we can conduct complicated analysis on worldwide data, with confidence that we can meet the needs of data integrity and governance. In addition Red Hat CloudForms is used to manage this complex hybrid cloud environment, and deliver a more consistent user experience."

Tim Yeaton, senior vice president, Infrastructure Business Group, Red Hat

"Red Hat OpenStack Platform and Red Hat CloudForms enables organizations to build and manage massively-scalable hybrid cloud architecture that best suits their unique needs, thanks to the flexible nature of open source. We're thrilled that the Wellcome Trust Sanger Institute has based their new offering on our solutions, and we look forward to supporting their efforts through our solutions to forge new paths in human genome research."

Additional Resources

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