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# Building HPC Clusters as Code in the [Almost] Infinite Cloud

*Wednesday, August 31, 2016 9:00 AM (40 minutes)*

Every day, HPC clusters help scientists make breakthroughs, such as proving the existence of gravitational waves, screening new compounds for new drugs and designing better headlights for cars. No industry is untouched by HPC, yet owning HPC clusters is out of reach for most organizations due to the upfront hardware and ongoing operational costs. Now with the cloud, not owning an HPC cluster can be one of the most productive ways to compute everything from the fluid dynamics of a milk bottle to the evolution of the universe. And with the availability of free Public Data sets in Amazon S3, even earth observation data and cancer genome data are easily accessible for use in the cloud. Run 1 cluster for 10,000 hours or 10,000 clusters for 1 hour anytime, from anywhere—in the cloud. The speed of innovation is only bound by your imagination, not your budget.

This talk will present why people are using Amazon for HPC and Scientific applications, how to build clusters on the fly, Amazon's on-demand SPOT market pricing. Lastly, it will provide real world examples from customers just like you, who've broken new ground because of the agility the cloud offers.

**Presenter:** BOUFFLER, Brendan (Amazon.com, Inc.)

**Session Classification:** Plenary Talks