



Huawei : Clouds at Scale

openlab open day

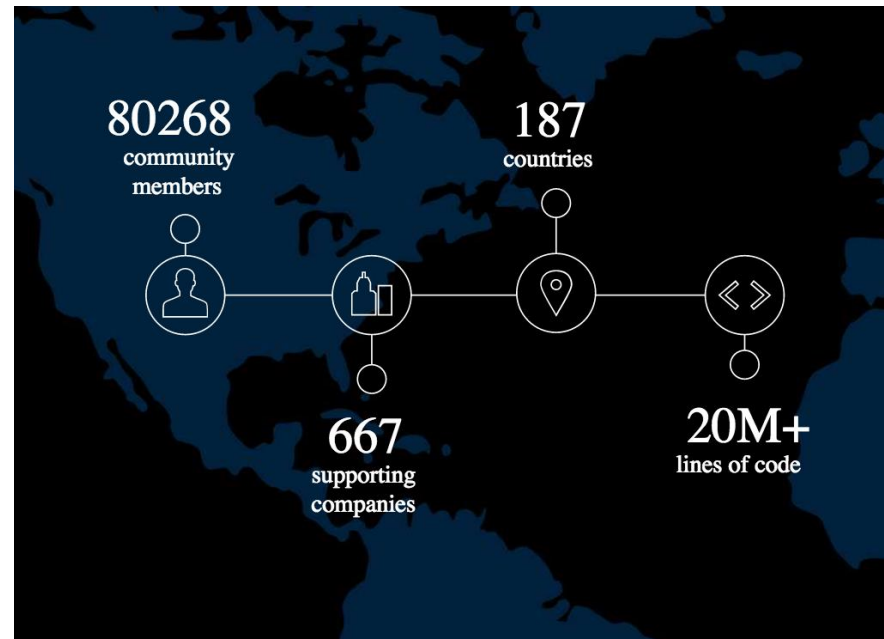
Tim Bell

21st September 2017

Project Context

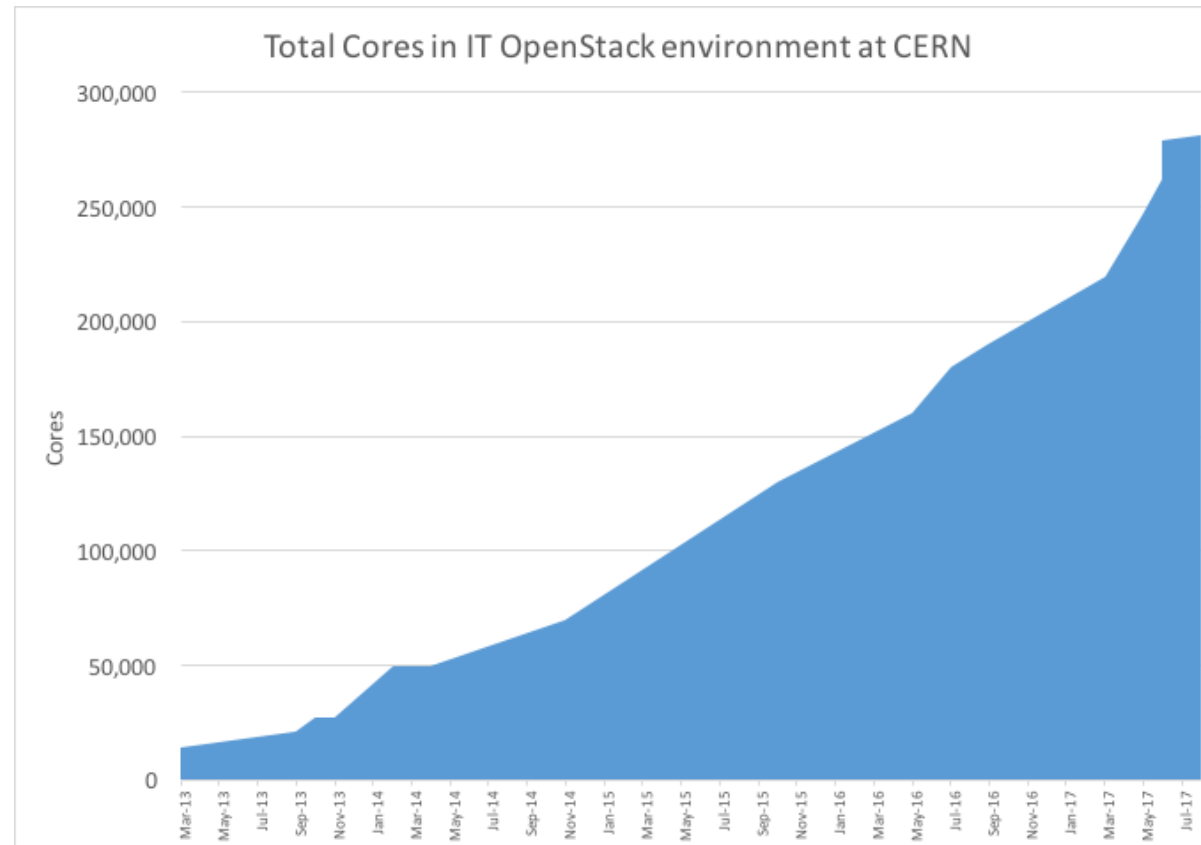


- OpenStack provides software for private and public clouds
 - CERN and Huawei are contributors to the open source project
 - Huawei is a platinum member of the OpenStack foundation



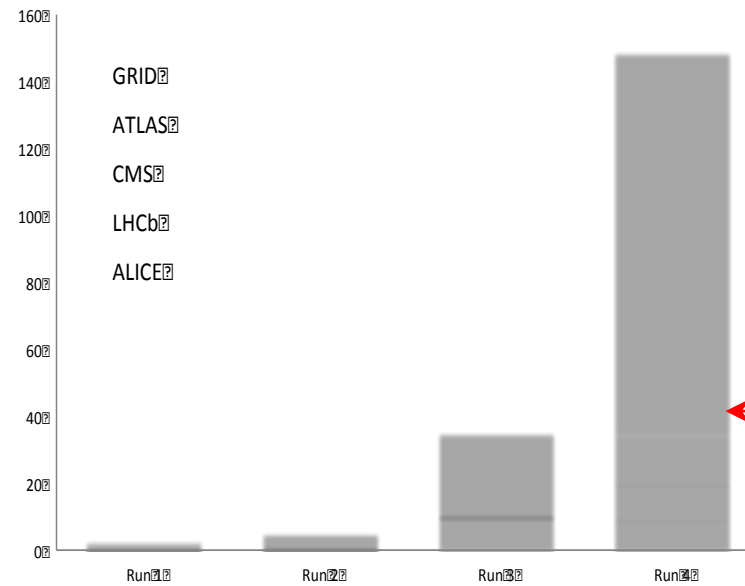
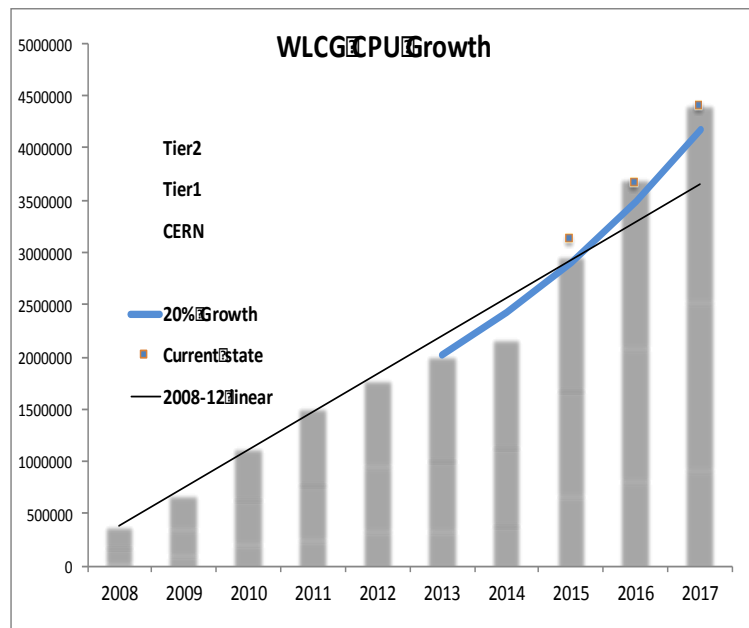
Project Context

- Over 90% of CERN's compute resources are delivered using OpenStack
 - >280,000 cores across two data centres in Geneva and Budapest



Project Context

- With the needs of LHC computing in future years, efficient and flexible delivery of compute resources will be key
 - Computing needs in 2023 estimated at 60x the current capacity (HL-LHC)



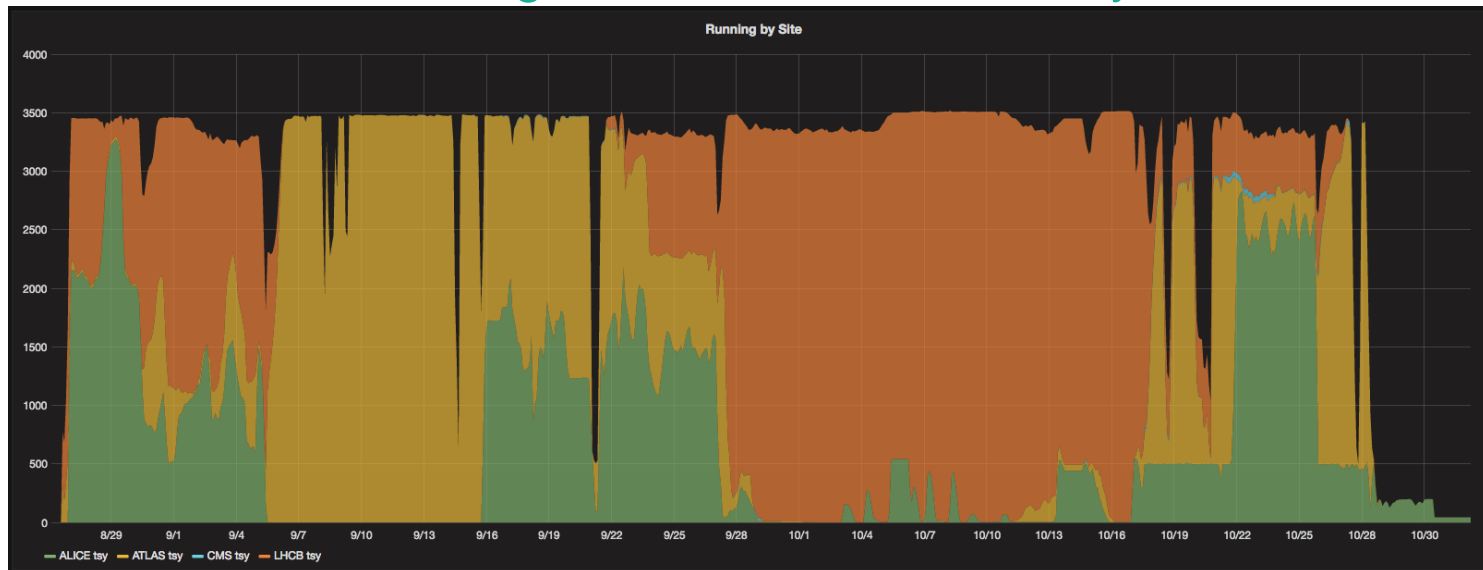
Compute: Growth > x60

← What we think is affordable unless we do something differently

Project Context



- CERN has been using the T-Systems Open Telekom Cloud for public cloud evaluations
 - OTC is based on Huawei's FusionSphere
 - Tests using 1,000 VMs demonstrated all 4 experiment workloads running successfully
 - Further investigations are now underway within the Helix Nebula project



Project Description

- CERN and Huawei will work jointly on improvements to OpenStack for running large scale scientific workloads
 - Fellows starting in Autumn 2017
- The developments will be done within the OpenStack community following the standard open source processes
- Focus areas are
 - Flexible resource management
 - Quotas
 - Bare metal allocation
 - Compute cells
- Changes will then be included into the CERN private cloud and Huawei's private and public cloud offerings



Thank You

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