Experience integrating a production private cloud in a Tier 1 Grid site

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Content:
The RAL Tier 1 has been working with cloud technology on an experimental basis for several years. In the autumn of 2014 we began the work of deploying a production quality private cloud, based on OpenNebula and using Ceph for backend storage and integrated into our existing system management and monitoring infrastructure. We report on our experience moving from an experimental platform to a production one.

We report on different approaches to integrating the private cloud with the Tier 1 resources pledged to WLCG. This includes bursting the existing HTCondor batch farm into on demand virtualised worker nodes running on the private cloud and the changes required to accomodate this. We also report on exposing standardised cloud interfaces to the WLCG Virtual Organisations who have been very active in exploring use of cloud technologies.

We discuss how these developments allow us to better meet the needs of our existing user communities, as well as making our resources accessible to other communities.

Summary:
Report on integrating a production private cloud resource into a WLCG Tier 1 Grid site.

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