

# Using OSG Computing Resources with (iLC)DIRAC

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CPU cycles for small experiments and projects can be scarce, thus making use of all available resources, whether dedicated or opportunistic, is mandatory. While enabling uniform access to the LCG computing elements (ARC, CREAM), the DIRAC grid interware was not able to use OSG computing elements (GlobusCE, HTCondor-CE) without dedicated support at the grid site through so called 'SiteDirectors', which directly submits to the local batch system.

Which in turn requires additional dedicated effort for small experiments on the grid site. Adding interfaces to the OSG CEs through the respective grid middleware is therefore allowing accessing them within the DIRAC software without additional site-specific infrastructure. Thus enabling greater use of opportunistic resources for experiments and projects without dedicated clusters or an established computing infrastructure with the DIRAC software.

To send jobs to HTCondor-CE and legacy Globus computing elements inside DIRAC the required wrapper modules were developed. Not only is the usage these types of computing elements now completely transparent for all DIRAC instances, which makes DIRAC a flexible solution for OSG based virtual organisations, but also allows LCG Grid Sites to move to the HTCondor-CE software, without shutting DIRAC based VOs out of their site.

In this presentation we detail how we interfaced the DIRAC system to the HTCondor-CE and Globus computing elements and explain the encountered obstacles and solutions or workarounds developed, and how the linear collider uses resources in the OSG.

## **Tertiary Keyword (Optional)**

## **Secondary Keyword (Optional)**

Computing middleware

## **Primary Keyword (Mandatory)**

Computing models

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