

# Contributing opportunistic resources to the grid with HTCondor-CE-Bosco

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The HTCondor-CE is the primary Compute Element (CE) software for the Open Science Grid. While it offers many advantages for large sites, for smaller, WLCG Tier-3 sites or opportunistic clusters, it can be a difficult task to install and configure the HTCondor-CE. Installing a CE typically involves understanding several pieces of software, installing hundreds of packages on a dedicated node, updating several configuration files, and implementing grid authentication mechanisms. On the other hand, accessing remote clusters from personal computers has been dramatically improved with Bosco: site admins only need to setup SSH public key authentication and appropriate accounts on a login host. In this paper, we take a new approach with the HTCondor-CE-Bosco, a CE which combines the flexibility and reliability of the HTCondor-CE with the easy-to-install Bosco. The administrators of the opportunistic resource are not required to install any software: only SSH access and a user account are required from the host site. The OSG can then run the grid-specific portions from a central location. This provides a new, more centralized, model for running grid services, which complements the traditional distributed model. We will show the architecture of a HTCondor-CE-Bosco enabled site, as well as feedback from multiple sites that have deployed it.

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