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Meta-configuration for dynamic resource brokering: the SUMS approach

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In the distributed computing world of heterogeneity, sites may have from the bare minimum Globus package available to a plethora of advanced services. Moreover, sites may have restrictions and limitations which need to be understood by resource brokers and planner in order to take the best advantage of resource and computing cycles.

Facing this reality and to take full advantage of any available site as well as local resources, we will present an approach implemented within the STAR Unified Meta-Scheduler (SUMS) framework. We will explain how the approach allows for self-consistency, that is, allows proper decision making at two sites using the same Meta-Scheduler configuration and software. We will explain how sites declare their configuration to the SUMS scheduler and how SUMS uses this information combined with policies to format jobs to tune to the strengths of a particular site.

A specific example on how SandBox, a way by which required software are distributed to the computing element, will be explained as SUMS uses an abundance and versatile set of methods for pulling or retrieving files from a site.

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