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Cloud integration within DIRAC Interware

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Computing clouds are widely used by many organizations in science, business, and industry. They provide flexible access to various physical computing resources. In addition computing clouds allows better resource utilization. Today, many scientific organizations have their own private cloud used for both: hosting services and performing computations.
In many cases, private clouds are not 100% loaded and could be used as work nodes for distributed computations. If connect clouds together it would be possible to use them together for computational tasks. So the idea to integrate several private clouds appeared. Cloud bursting approach may be used for the integration of resources. But in order to provide access to the united cloud for all participants, the extensive configuration would be required on all clouds.
We studied the possibility to unite clouds by integrating them using distributed workload management system –DIRAC Interware. Two approaches for virtual machines spawning were evaluated: usage of OCCI interface and OpenNebula RPC interface. They were tested and both approaches allowed to complete computing jobs on various clouds based on OpenNebula interware.

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