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Monitoring and accounting in the INFN-Cloud infrastructure

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INFN-Cloud aims at exploiting the power of a federation of cloud sites to provide cloud resources to a heterogeneous public of end users. In the cloud context, they are supposed to manage the whole stack, or a part of it. This means that they need to have full control of what happens on their servers, with almost no need from them to ask for help to the site administrator.

This talk will describe in detail the architecture of the INFN Cloud monitoring and accounting services, which have been designed to provide users with complete feedback, and thus control, on the resources they use and on how they use them.

Several levels of monitoring checks have been implemented, ranging from a very low level view of the resources to high-level application monitoring, keeping in mind simplicity, clearness and effectiveness.
The INFN-Cloud status page provides a very quick high-level overview of the overall status of the cloud federation, in terms of service availability (e.g. operational, under maintenance or degraded). The monitoring system is integrated with the services instantiated by the users through the INFN-Cloud Dashboard, enabling them to completely self-manage their instantiations.

On the other hand, INFN Cloud also implements an accounting system, aiming at controlling how resources are used by the different user communities or by specific users. The collected data about resource usage information is then provided through a user-friendly web interface.

Besides being user-oriented services, the INFN-Cloud monitoring and accounting architectures are also instrumental to allow an easy and effective integration of new cloud providers into the INFN-Cloud federation, providing each cloud site administrators and the central INFN-Cloud operations team with dedicated notifications and statistics. The talk will conclude with an overview of the expected enhancements of the INFN-Cloud monitoring and accounting system over the next months, allowing further integration with hybrid cloud deployments.

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