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What's new in the INDIGO PaaS

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This contribution provides an overview of the new features that have been introduced in the INDIGO PaaS orchestration system through the developments carried out in the most recent H2020 projects such as DEEP-HybridDatacloud, eXtreme-Datacloud and EOSC-Hub, and that today are exploited in the INFN Cloud project. The INDIGO PaaS is a middleware that allows to federate distributed computing and storage resources using a TOSCA-based orchestration system.

Among the new features there's the possibility of deploying virtual computing environments (based on VM or container) with GPUs; the management of failures and timeouts has been improved; user management has been revised, introducing greater control over roles (regular user / admin). Another important update concerns the support for multi-tenancy and the integration with multiple authentication systems based on OpenID-Connect (in particular INDIGO-IAM and EGI-Checkin) to facilitate the adoption in different contexts, from INFN Cloud to EGI Federated Cloud. Moreover, it is now possible to federate not only private cloud infrastructures, such as Openstack, and public clouds such as Amazon AWS, and Mesos clusters, but also Kubernetes clusters: a plugin has in fact been added to manage Helm chart deployments. Finally, a web dashboard has been developed that greatly simplifies the user interaction with the PaaS services.

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