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Cloud Federation - the new way to build distributed clouds

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Cloud federation brings an old concept into new technology, allowing for sharing resources between independent cloud installations. Cloud computing starts to play major role in HEP and e-science allowing resources to be obtained on demand. Cloud federation supports sharing between independent organizations and companies coming from the commercial world such as public clouds, bringing new ways of joint collaboration along with security and usability.

From the OpenStack Icehouse release, cloud federation, based on the SAML2 protocol, is now integrated with the standard open source tree and becoming a reality. Examples of this configuration both command line and web based use of providers such as EduGain or connections to public clouds such as Rackspace.

This presentation will demonstrate what functionalities OpenStack brings, what are the main concepts, how it was designed, how federation with the SAML ECP extension allows use of REST and CLIs, and what are our plans to use real hybrid clouds - identity federation, optimal image sharing and networking layer which would allow for creating distributed vLANs.

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