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A portal for an easy access to the IGI grid infrastructure

In the framework of the Italian Grid Infrastructure, we are designing a web portal for the grid and cloud services provisioning.

In following this approach, we feel that one of the key point that this kind of application must be able to address is the possibility to hide the complexity of the X509 certificates request and management.

In fact, while the PKI infrastructure is certainly one of the main aspects of the Grid environment, it is also one of the bigger obstacles that very often prevent the new users from approaching it.

The main goals that we want to achieve with the portal are:

- To allow the Grid job submission via web.
- To allow the provisioning demanding of a Cloud environment (Wnodes) via web.
- To make easier the request and management of X.509 certificates and the request for a VO membership.
- To minimize the job failure rate

The main requirements of this application are:

- A strong user identification by mean of an accredited identity federation (i.e. IDEM federation for Italy). This must represent the external e authentication layer.
- The possibility to use a personal X.509 certificate if a user already has one.
- The possibility to specify a VO membership if a user is already a member of a VO
- The possibility to provide a X.509 certificate, through the portal, using an online CA, if a user doesn't have a certificate
- The possibility to ask for VO membership, through the portal, if the user is not a member of any VO
- The possibility of workflow submission
- Job submission form and view ad hoc for each community and JDL personalization
- Accounting and monitoring system to collect information about resources utilized and service quality level.

The portal will be based on the Liferay framework and it will be composed of several modules (portlet) each of them implement a different service: authentication, job submission, clouds bridge etc.

The portal will interacts with external elements as Grid services (VOMS, MyProxy), IDPs and CA online using SAML protocol and in encrypted form.

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