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Dynamic DNS for EGI Cloud federation

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Nowadays, more and more services are dynamically deployed in Cloud environments. Usually, the services hosted on virtual machines in Cloud are accessible only via IP addresses or pre-configured hostnames given by the target Cloud providers, making it difficult to provide them with meaningful domain names. The Dynamic DNS service was developed by Institute of Informatics, Slovak Academy of Sciences (IISAS) to alleviate this problem.
The Dynamic DNS service provides a unified Dynamic DNS support for virtual machines across the EGI Cloud infrastructure. Users can register their chosen hostnames in predefined domains (e.g., my-server.vo.fedcloud.eu) and assign them to the public IPs of their servers.
The Dynamic DNS service significantly simplifies the deployment of services that are dynamically deployed in Cloud infrastructures. It removes the obstacles of changing IP addresses of services in Cloud at every deployment and enables obtaining SSL certificates for the hostnames. Service providers can migrate services from local servers to Cloud or from a Cloud site to another without noticing users from the change.
The service has been in operation since 2018 with more than one hundred active users. It is being upgraded for stability and security. There are several new and ongoing developments that may be interesting for the users of the Dynamic DNS service:

- Support for wildcards hostnames (already available): the wildcards are critical requirements for load balancers and Kubernetes ingresses
- Support for hostname registration via API (planned): the API for hostname registration would enable full automation of Dynamic DNS service
- Support for issuing SSL certificates (planned): this would overcome the quota limitation of LetsEncrypt, especially for large domain

Stay tuned!

Topic

Needs and solutions in scientific computing: Federated operation

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