



Developing Cloud applications with OCCl

Michele Orrù, INFN-CNAF

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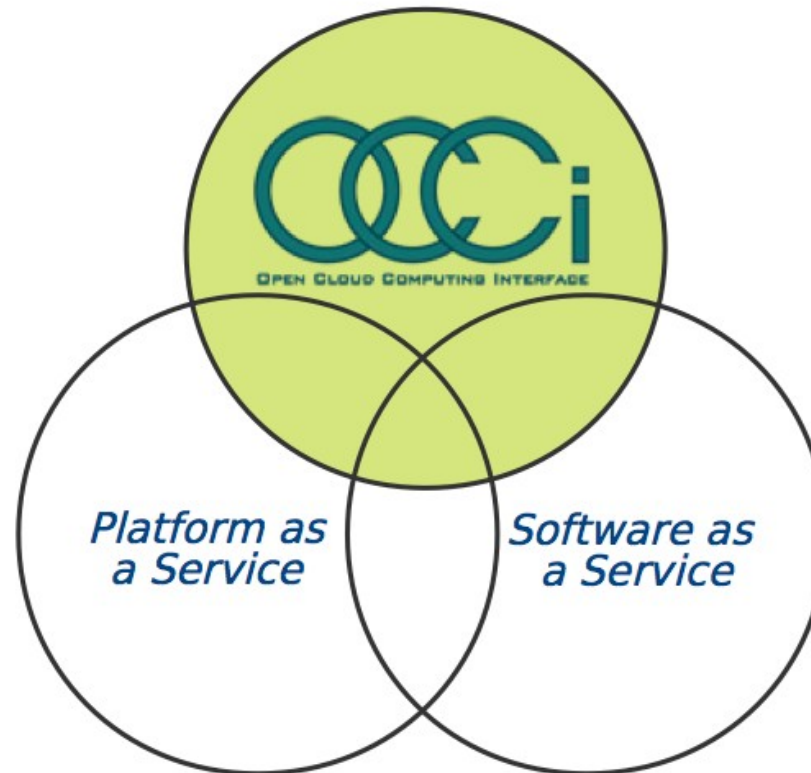
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Outline

- OCCI introduction
- How to use the OCCI API
- INFN OCCI implementation

OCCL introduction

- Open Cloud Computing Interface is an interoperable API for Cloud providers



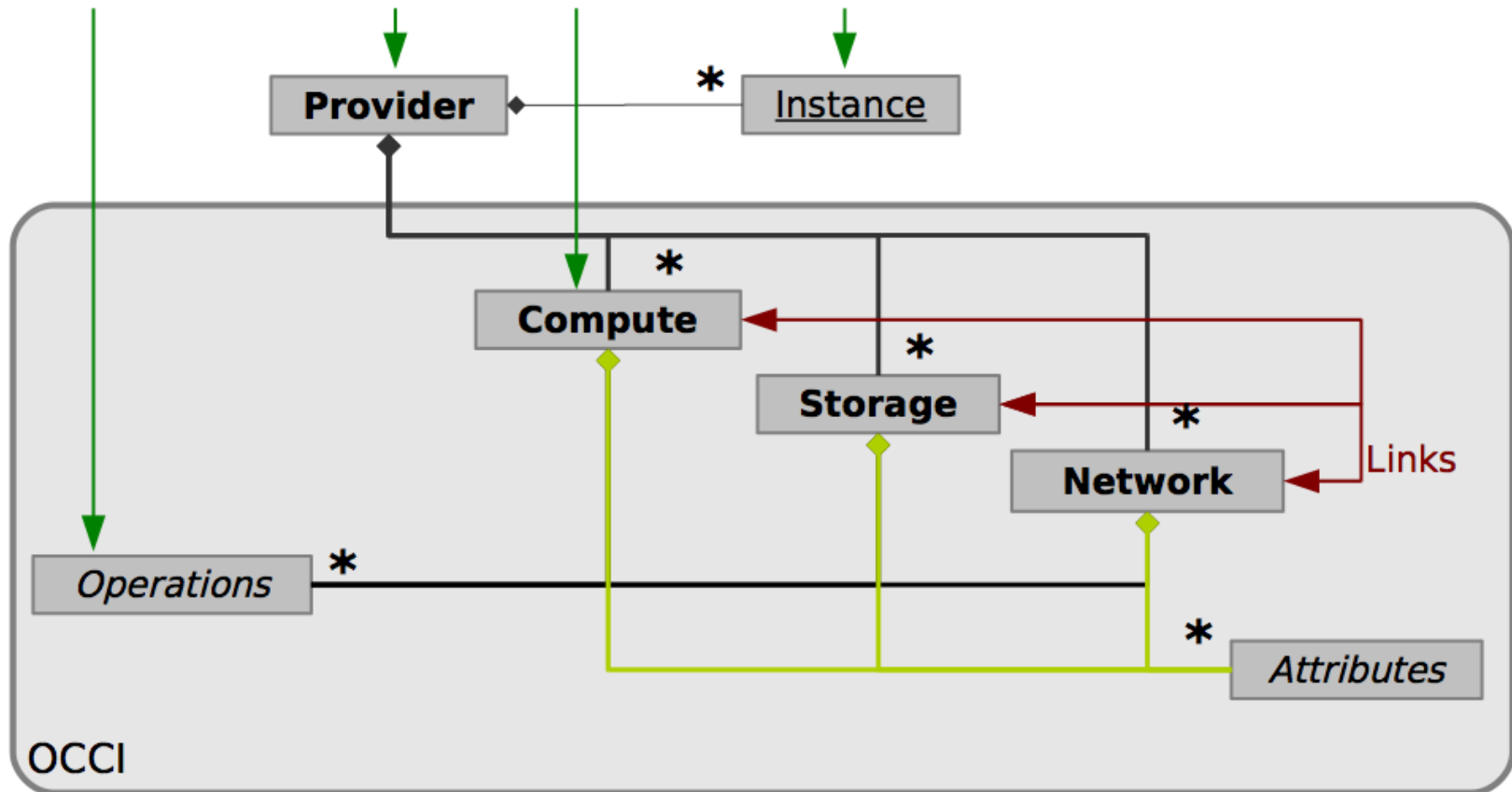
Adoption



- If you are a Cloud provider that exposes resources to the outside, you should use OCCl
- If you already use a proprietary API, you should think about wrap it around OCCl
- Use OCCl increase interoperability between providers

How it works

GET <http://infn.it/compute/instance001-x5>



Keys for implementation

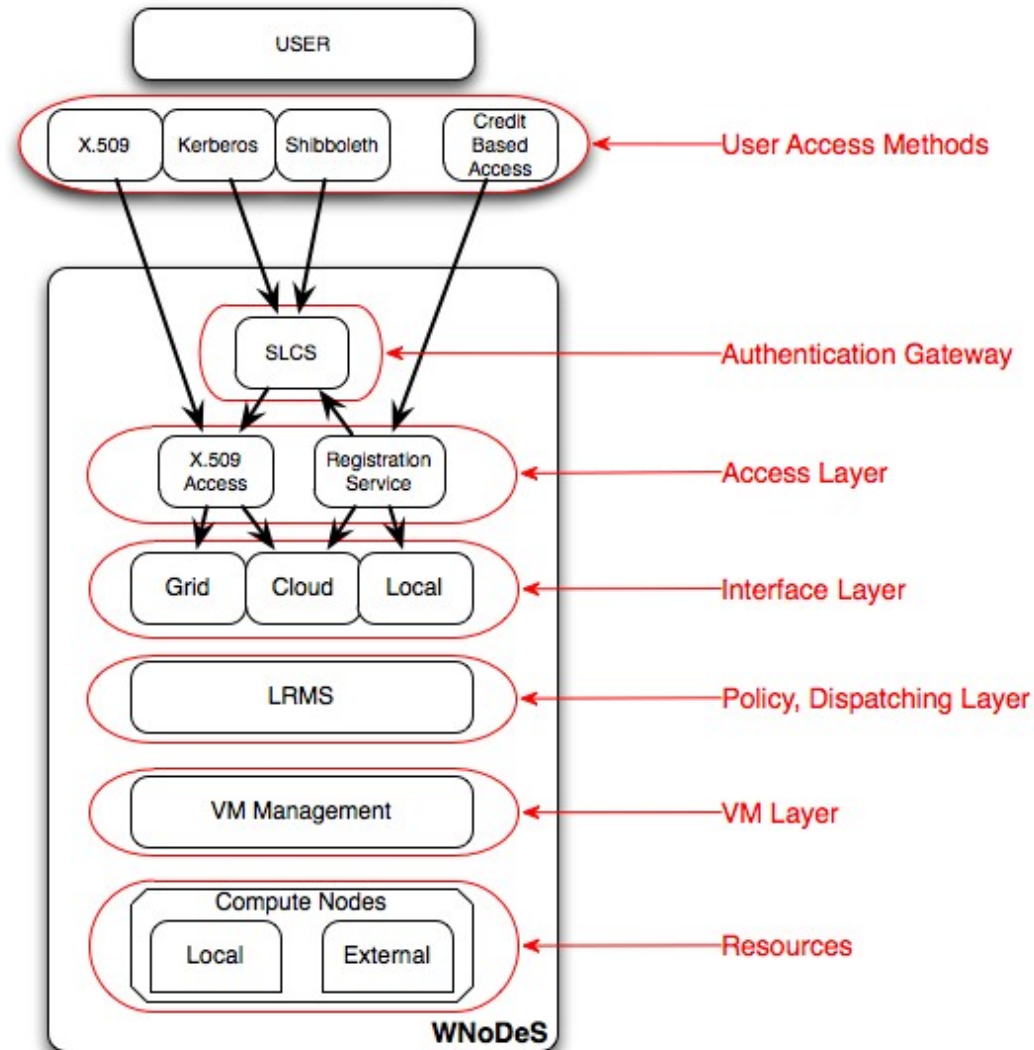


- Understand RESTful principles
- Use a REST-capable library
- Understand how CURL (or any other decent HTTP client) works
- Customize the API to fit your needs, until all the extensions will not be in place

INFN OCCI implementation



- OCCI is used to exposed a second service that coexists with the T1 Grid infrastructure
- The same pool of resources used for Grid jobs can be used for Cloud requests



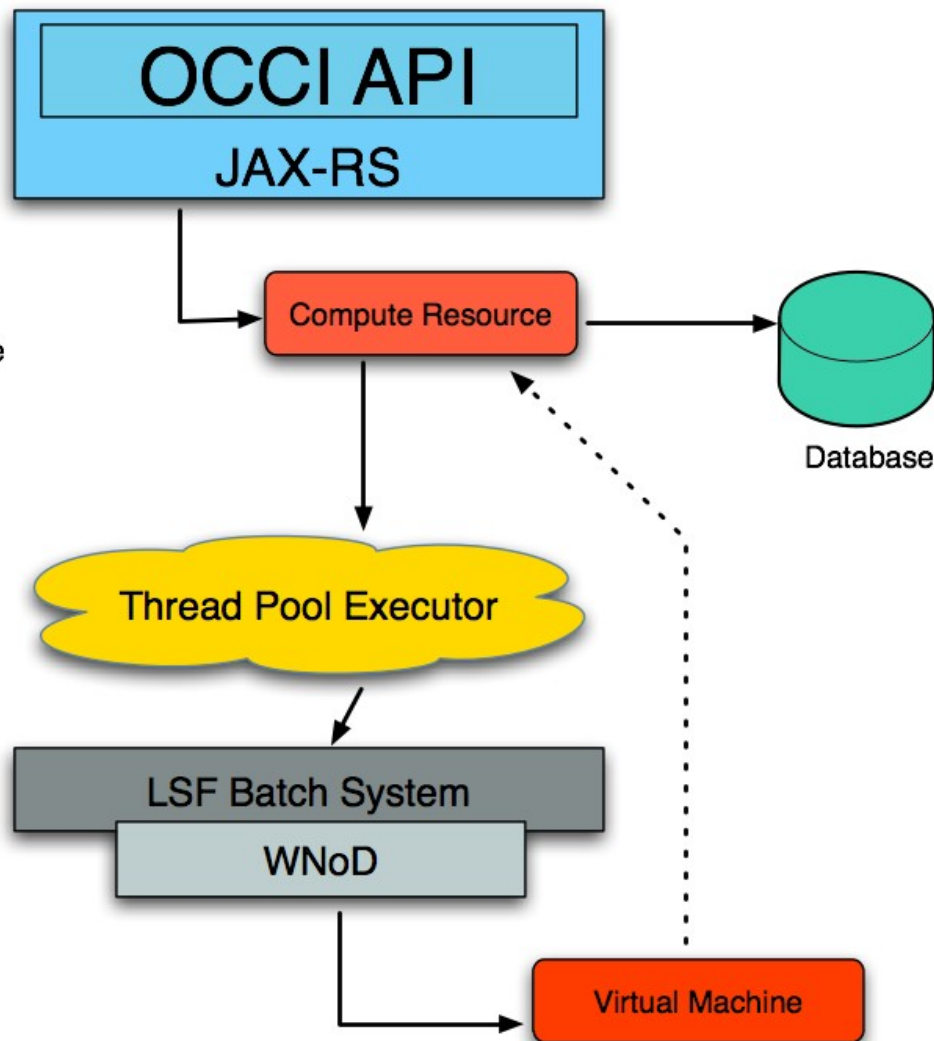
- Custom security extensions, both for authentication and authorization (X.509, OpenSSH public keys)
- API implemented with industry standards such as Tomcat, Spring, Hibernate, JAX-RS, GWT
- Soon will be opened to the public for testing (and to developers for study)

Application flow

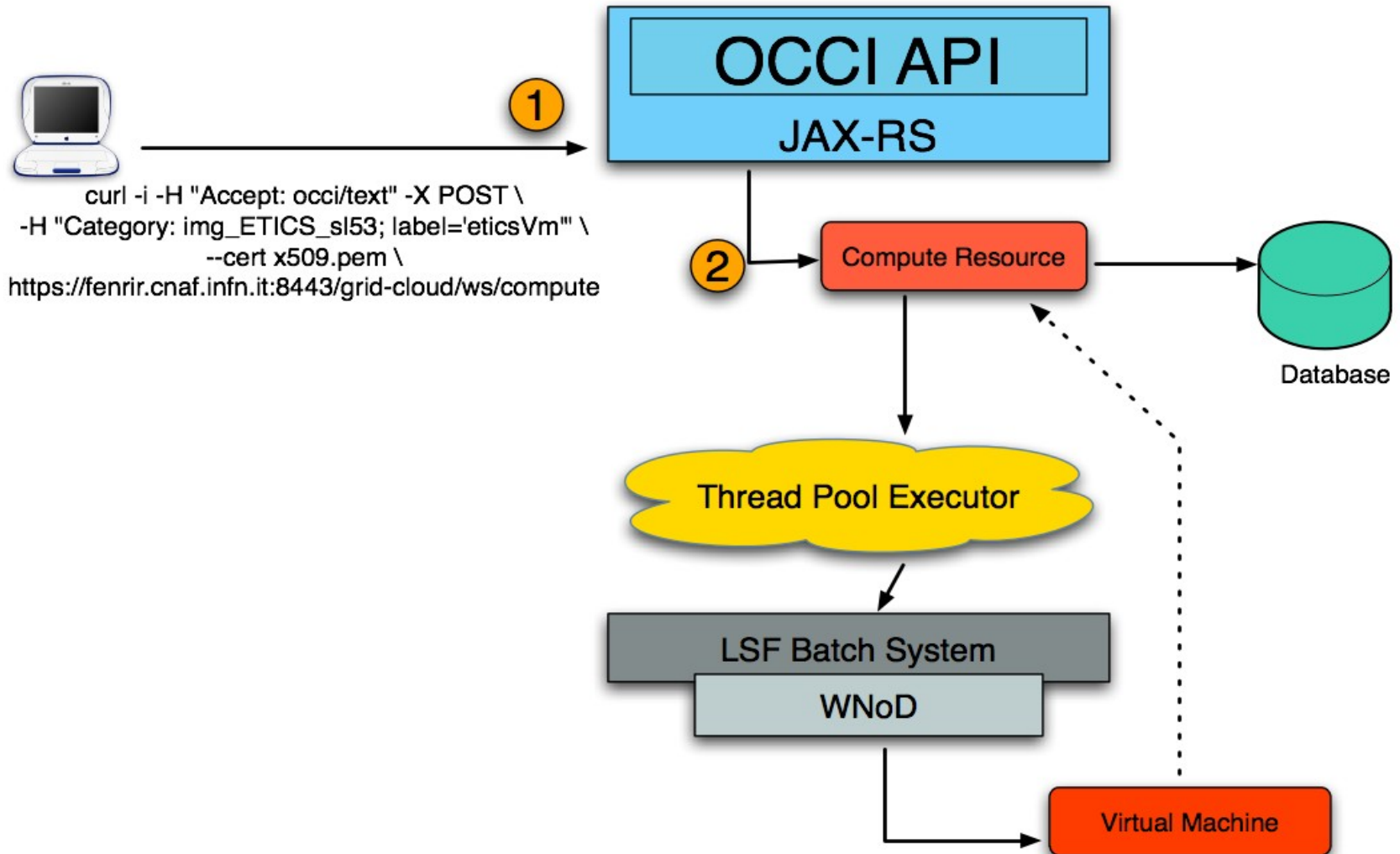


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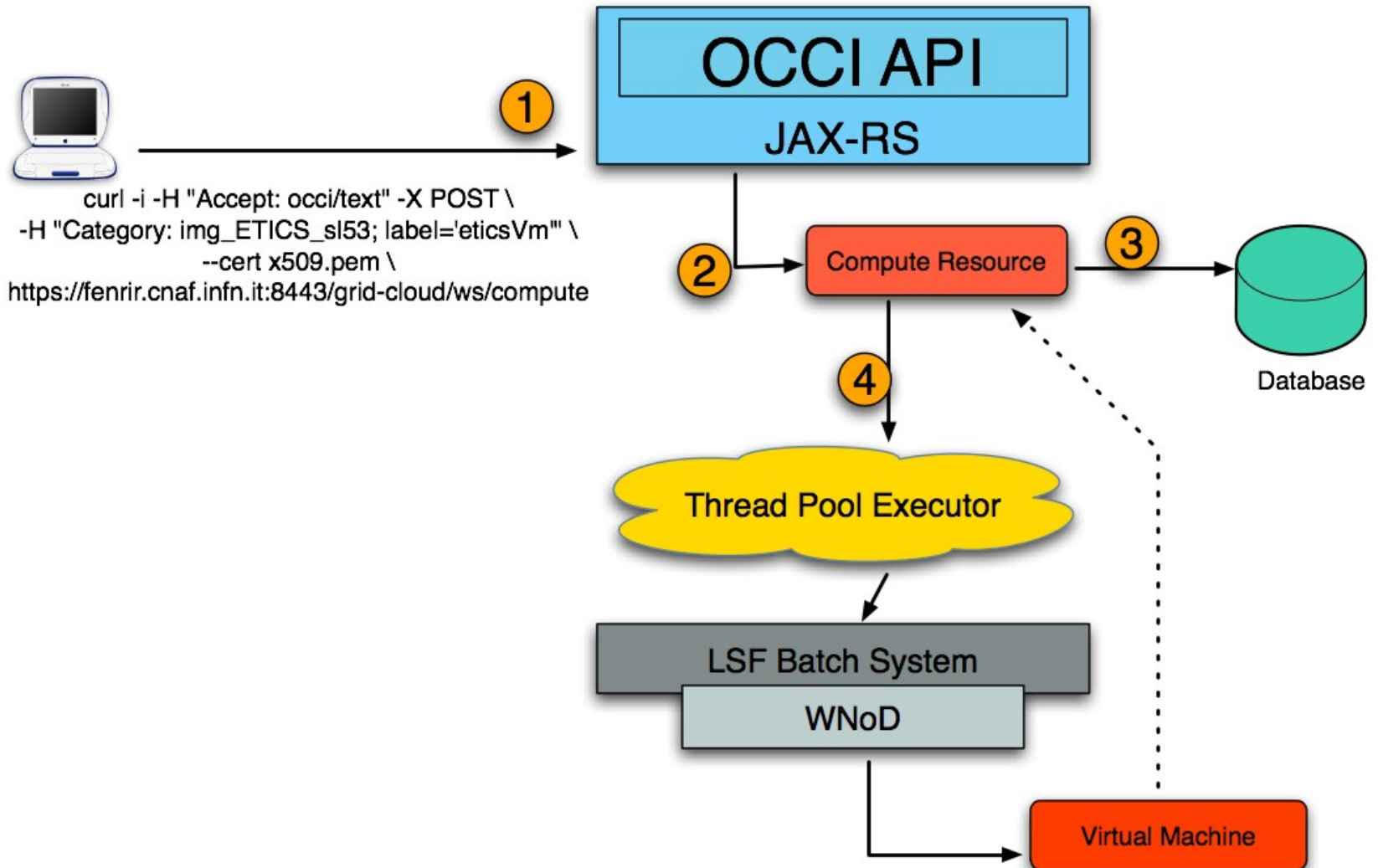
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curl -i -H "Accept: occi/text" -X POST \  
-H "Category: img_ETICS_sl53; label='eticsVm'" \  
--cert x509.pem \  
https://fenrir.cnaf.infn.it:8443/grid-cloud/ws/compute
```



Application flow



Application flow



Application flow

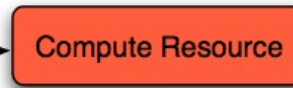


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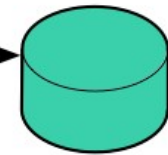
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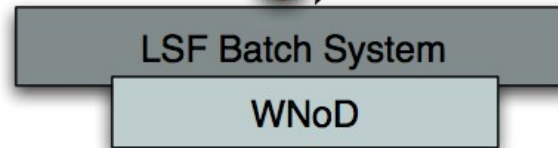


Database

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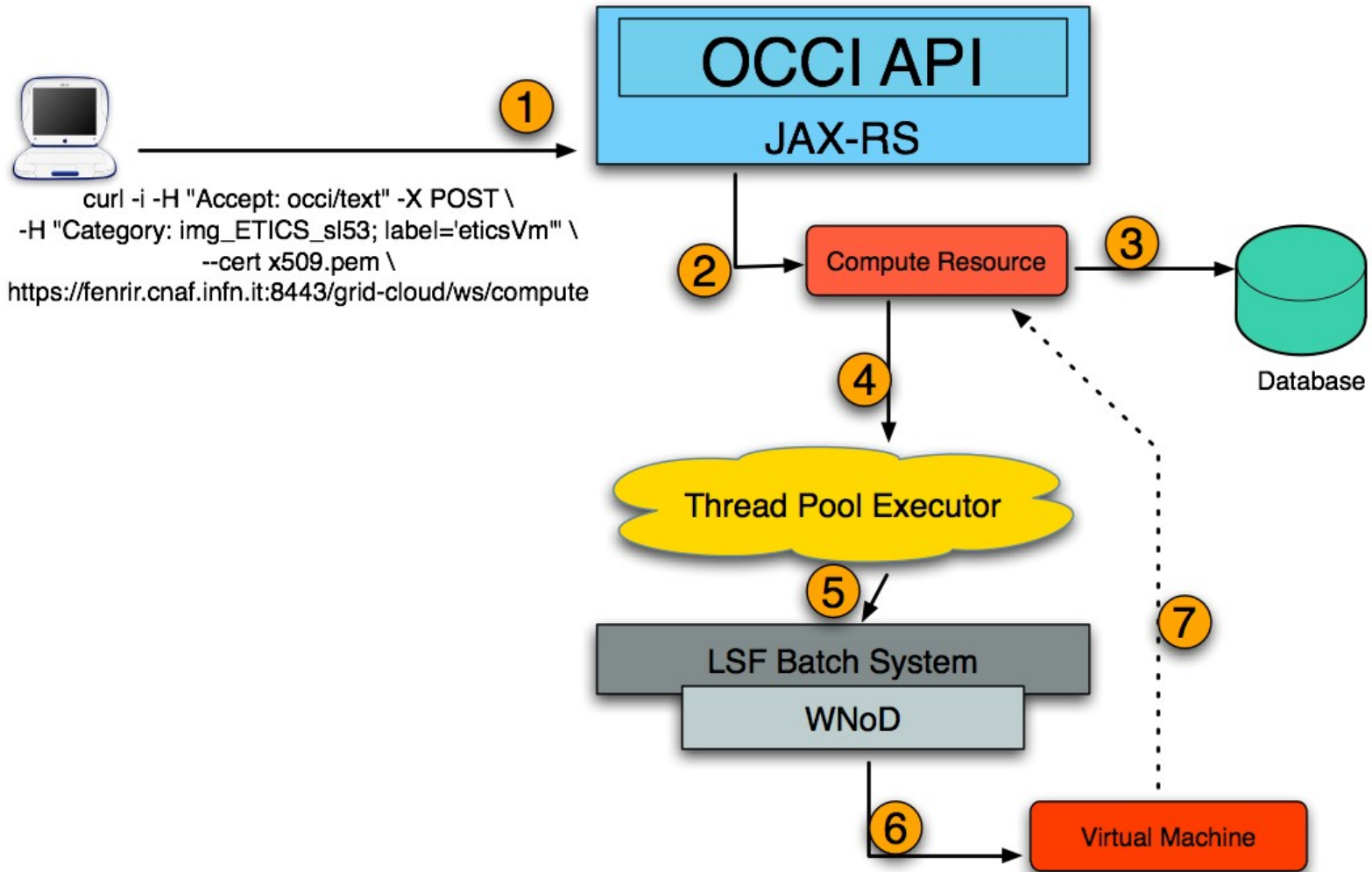
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Application flow



Thanks for your attention

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