EUROPEAN

MIDDLEWARE INITIATIVE

HYDRA USER DOCUMENTATION

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Installation

Prerequisites

The EGI Trust anchors .repo file is needed. You need to go here.

You also need to install the `fetch-crl`

```
yum install fetch-crl
```

The Hydra clients are installed from the EMI repositories. Install the EMI release package.

```
yum install yum-priorities yum-protectbase
rpm -Uvh http://emisoft.web.cern.ch/emisoft/dist/EMI/2/sl6/x86_64/base/emi-release-2.0.0-1.sl6.no
```

In order to have access to the proxy generation clients the VOMS clients should be installed:
`yum install voms-clients`

Client Installation

The installation command is:
`yum install emi-hydra-cli`

Configuration

Introduction

The Hydra clients provide the access to the Hydra key stores and also some Data Management functionalities. The Hydra clients are typically NOT installed on the same machine as a Hydra service.

Configuration

For the user, the configuration needed to run the clients is as follows.

Credentials

- Access to a valid certificate/key pair through one of the following methods:
  - Standard certificate/key pair (`usercert.pem/userkey.pem`) in standard location: `$HOME/.globus`
  - Non-standard certificate/key pair naming or location specified through `X509_USER_CERT/X509_USER_KEY` environment variables.
  - Standard proxy in standard location `/tmp/x509up_u[uid]`.
  - Non-standard proxy naming or location specified through `X509_USER_PROXY` environment variable.

Service end-points variables

- It must be specified through the environment variable `GLITE_SD_PLUGIN` whether the client picks up Hydra services information from a local file or through the BDII. Failure to set this variable to either of the choices below will result in a service discovery error.
  - `export GLITE_SD_PLUGIN="file"` or
  - `export GLITE_SD_PLUGIN="bdii"`

- If `GLITE_SD_PLUGIN` is set to "file" then the Hydra services file must be specified by the `GLITE_SD_SERVICES_XML` environment variable. Failure to set this variable to a valid file will result in an error.
  - `export GLITE_SD_SERVICES_XML="$HOME/[name of hydra services xml file]`

- If `GLITE_SD_PLUGIN` is set to "bdii" then the BDII service to be used must be specified by the `LCG_GFAL_INFOSYS` environment variable. Failure to set this variable to a valid BDII location will result in an error.
  - `export LCG_GFAL_INFOSYS=[name and port of BDII]`

Service end-points file.

The client requires some information of the current Hydra servers, this can be a local file (for test purposes) or any information system (e.g. BDII). Is is assumed that the user or their administrator is aware of the Hydra service end-points to be used.

If the file method is being used to describe the Hydra end-points then the format of the expressed by the environment variable $GLITE_SD_SERVICES_XML is as follows.

An example of such a file can be found here

In the example file, there are three end-points configured within a single Hydra server (hip-paha-virt-14.cern.ch). A service block looks like:

```
<service name="hydra-1">
        <parameters>
            <endpoint>https://hip-paha-virt-14.cern.ch:8443/1/glite-data-hydra-service/services/H
            <type>org.glite.KeyStore</type>
            <version>2.0.0</version>
            <volist><vo></vo></volist>
        </parameters>
        <associatedservices>
            <name>hydra-2</name>
            <name>hydra-3</name>
        </associatedservices>
    </service>
```

* `service name` is arbitrary but must be consistent in the other service blocks. It is used to describe the web service URLs.

* `endpoint` describes the URLs where the web services reside.

* `type` Do not change.

* `version` Do not change.

* `associatedservices` These list the other URLs that are to be used to store key fragments.

The service blocks corresponding to the other URLs that store the key fragments must follow the same cyclic order. Specifically, the service block for `"hydra-2"` needs to reference in its `associatedservices` block the other multiple Hydra URL `service name` etc.

Data Management variables

* If the Hydra client is to be used with Data Management components then some more environment variables will need to be set. The following environment variables need to be set:

Variable name	"Default value*	Comment
LCG_GFAL_INFOSYS	None	This is the name of your BDII service
LCG_CATALOG_TYPE	lfc	
LFC_HOST	None	
LFC_HOME	None	Name of the home directory in LFC
DPNS_HOST	None	Name of DPM head node
DPM_HOST	None	Name of DPM head node

-- JohnWhite - 26-Oct-2012

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