A GRID GATEWAY FOR THE EGI INFRASTRUCTURE

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What is L-GRID?

L-GRID is an extremely light portal developed in order to access the EGI Grid infrastructure via Web, allowing users to submit their jobs from whatever Web browser in a few minutes, without any knowledge about the underlying Grid infrastructure.

The L-GRID gateway provides a full control over the complete lifecycle of a Grid Job: certificate conversion, job submission, status monitoring, output retrieval. It provides also a very simple and customizable JDL editor.
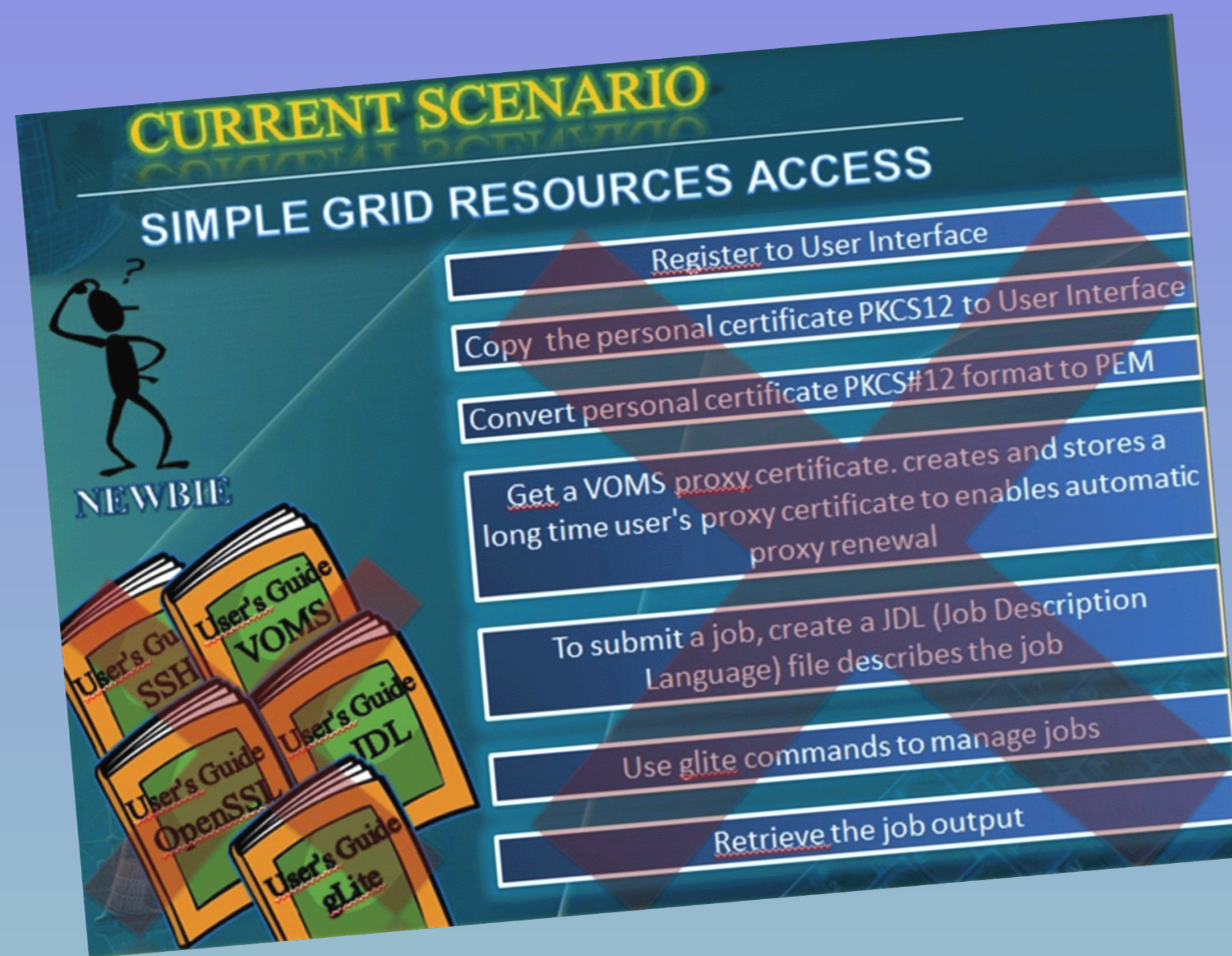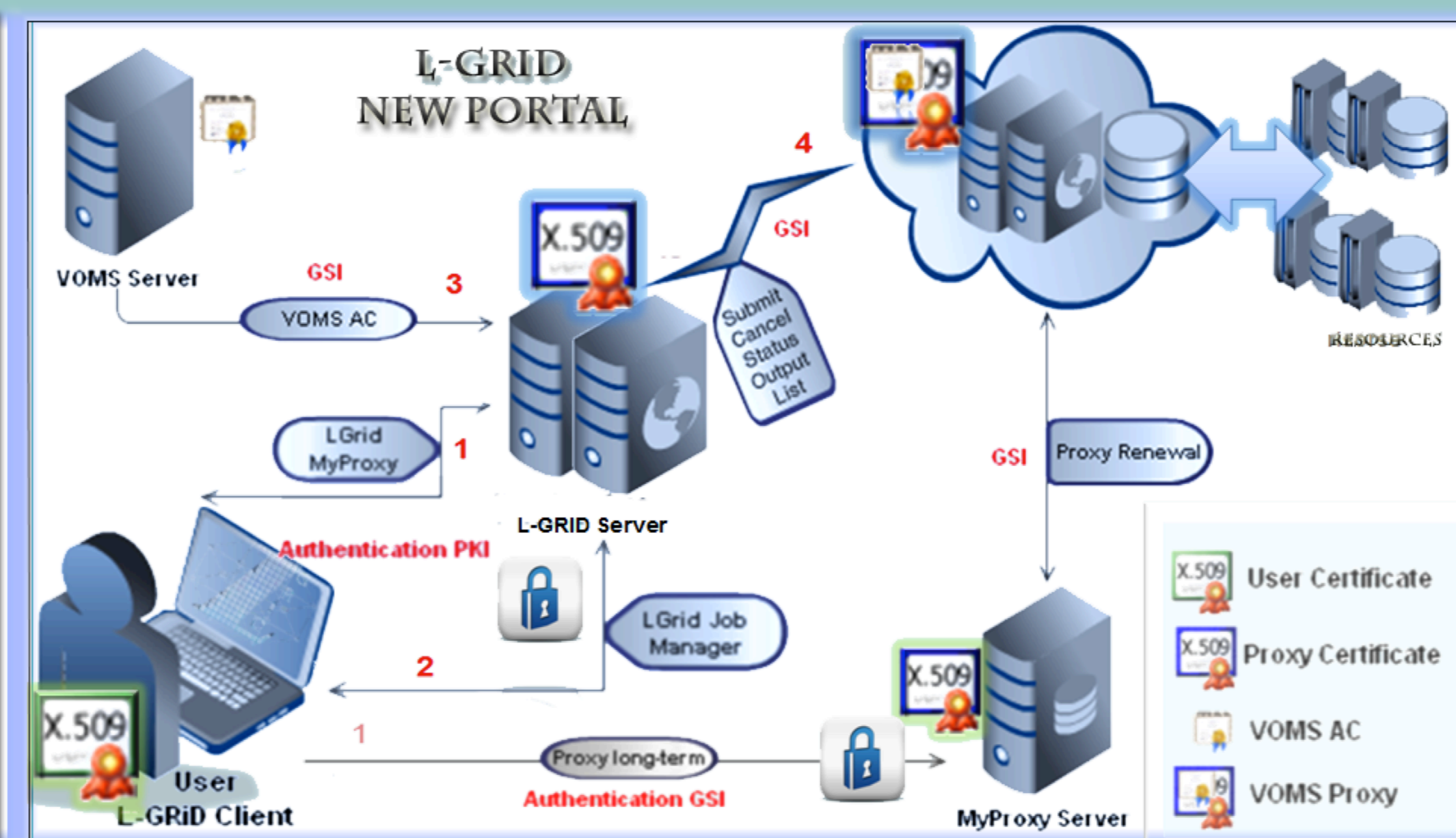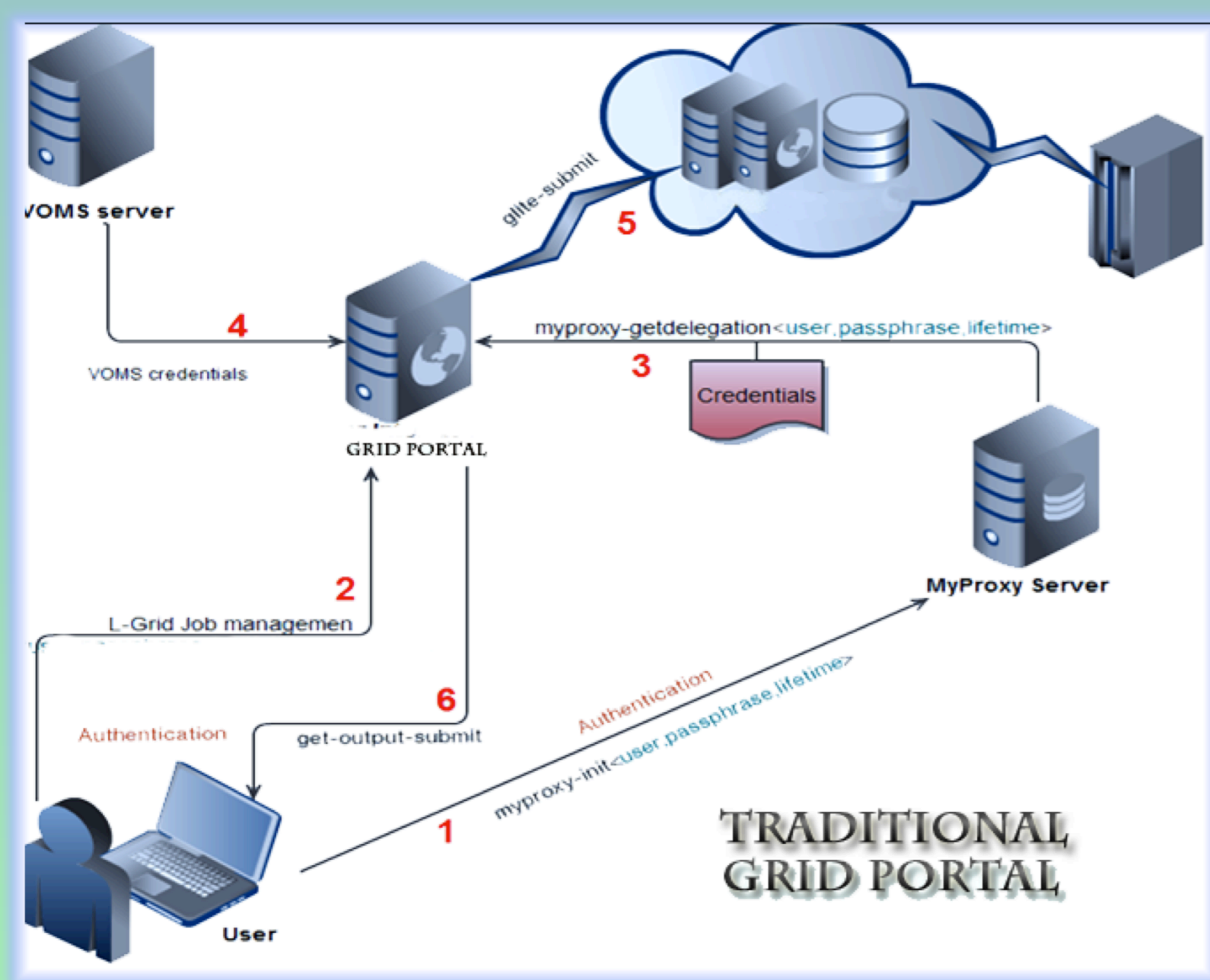

Dynamic Credentials Delegation

L-GRID splits into client and server the main gLite User Interface commands. This entails an increased security level in Proxy Certificates management: it is no more necessary to send username and password to the MyProxy server for delegating a proxy certificate or maintain a copy of the X.509 personal certificate on the User Interface.

At the same time a smallest amount of data (applications and certificates) needs to be transmitted over the network: the job input and output files are automatically compressed.

In L-GRID the userID is derived from the Distinguished Name (DN) of the X.509 personal certificate. The main differences with respect to a native User Interface are the extreme ease of use and the no-need of users registration. This way the end user needs only her/his personal X.509 certificate, issued from a Certification Authority, and an access to the Internet. The X.509 personal certificate does not get out from the local machine, strictly compliant to the EGI policies.
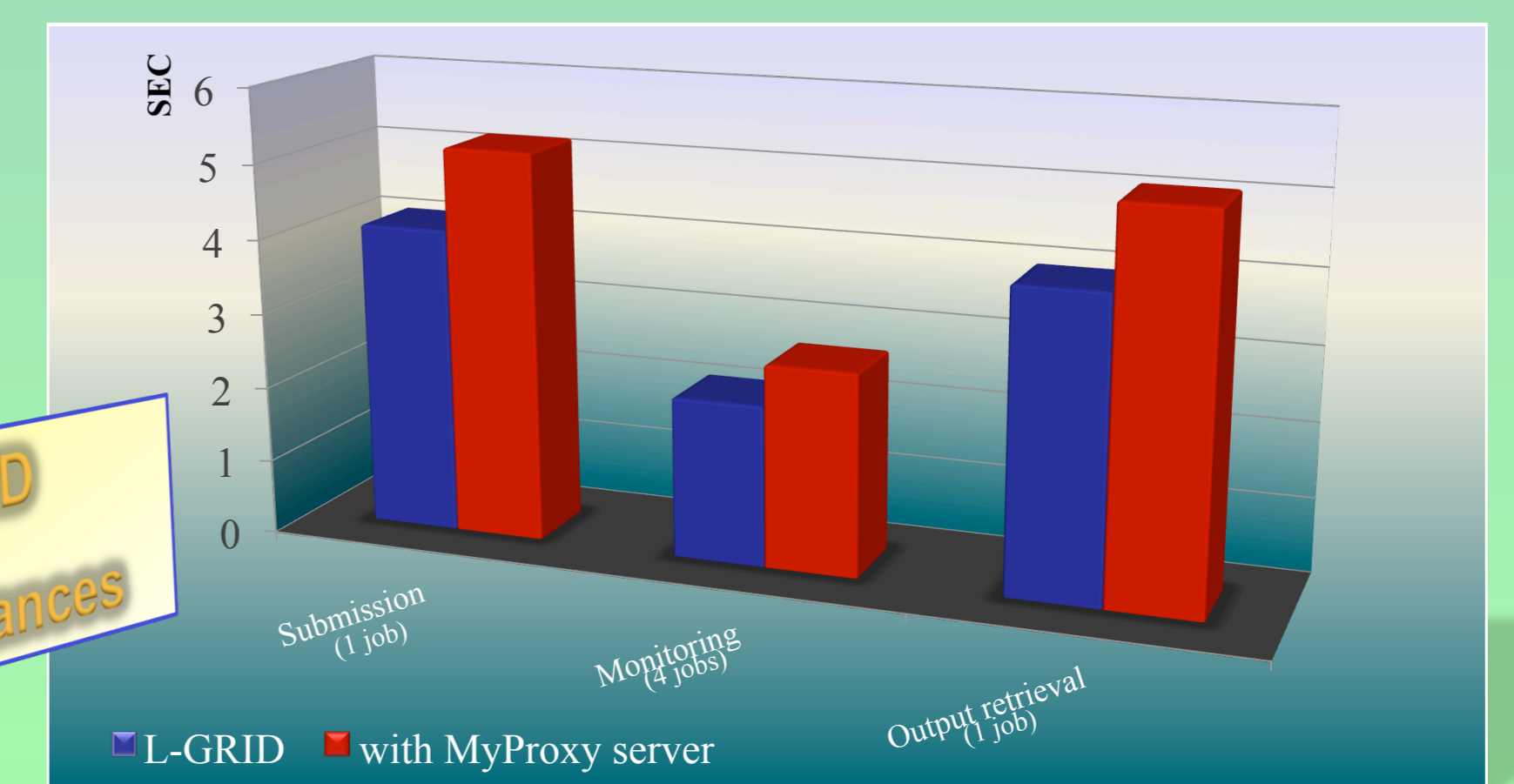
How to interact with a GRID Gateway?

Dynamic Credentials Delegation
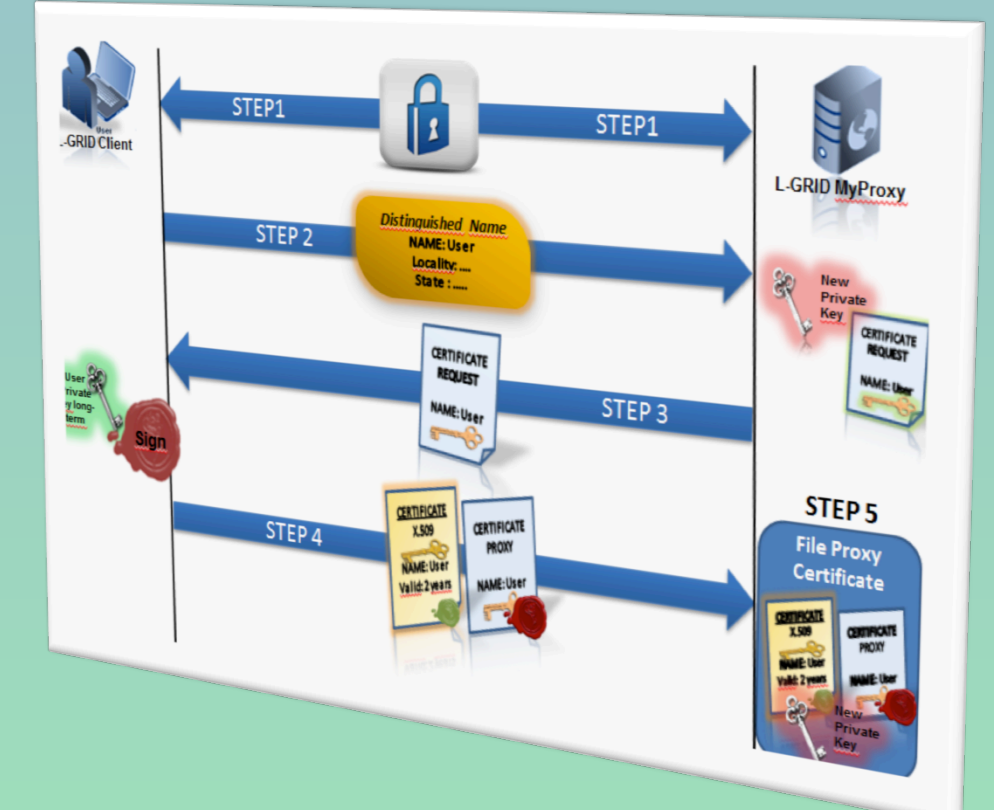
Tests and Performances
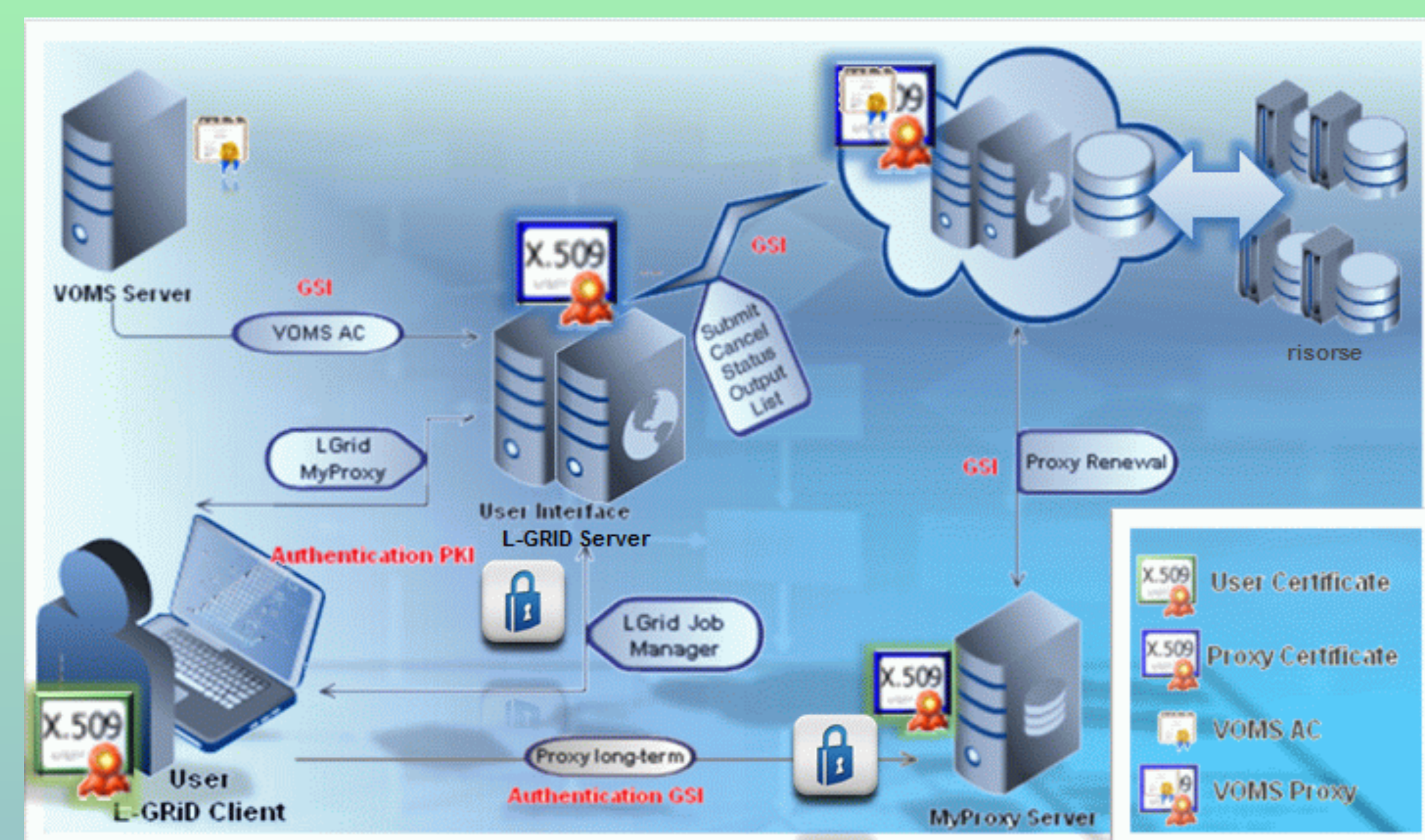

L-GRID: Requirements and Features

User's Requirements:

- X.509 personal certificate
- Web browser

System Features:

- User friendly
- Security: SSL protocol, dynamic credentials delegation
- Highly customizable for user's needs
- Open Source
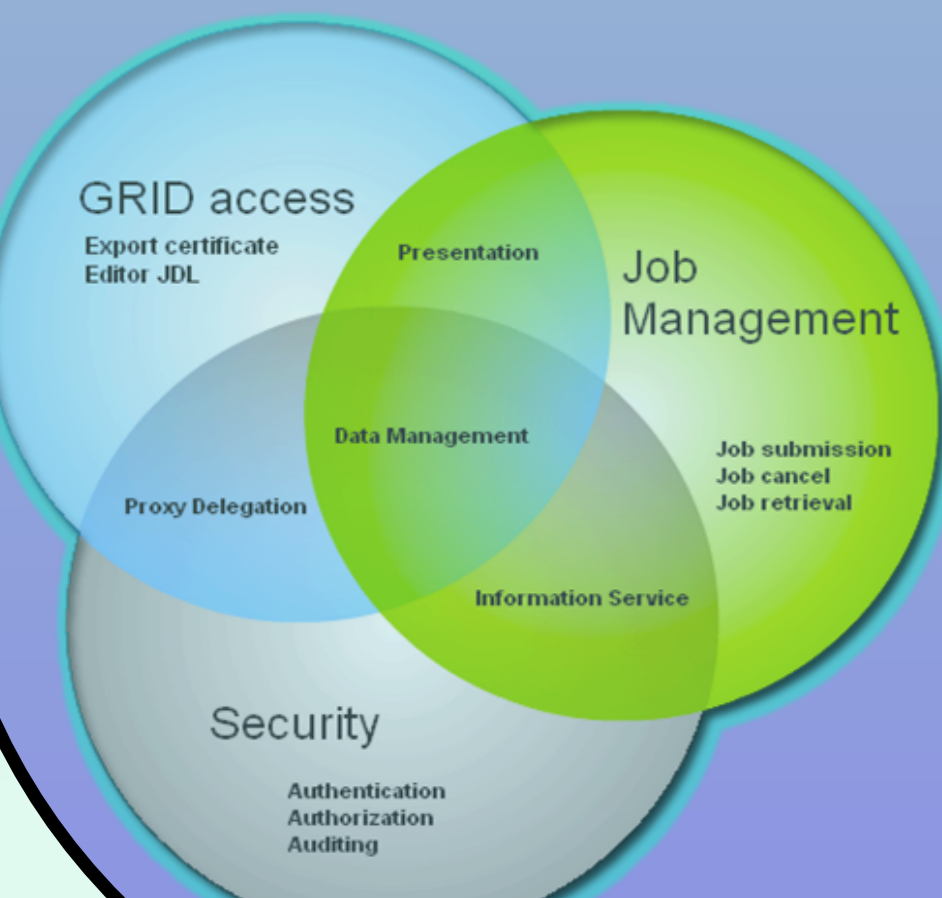- Easy to install - requirements: 5 MB

➢ **Security**
➢ **Performance**
➢ **Ease of use**

Architecture

➢ The whole architecture, implemented as client-server architecture, is based on the Globus gLite Grid middleware and Java Commodity Grid Kits (CoG) library.

➢ The client side application is based on a java applet, running both on Windows, Linux and Mac operating systems; it only needs a Web browser connected to the Internet.

➢ The server relies on a Globus - gLite User Interface with a Web portal provided by an Apache/Tomcat server.

Through the implementation of a mechanism for dynamic delegation on the server side of the portal, we extend the concept of Grid to the connected clients too. The user client becomes itself part of the Grid infrastructure.

Graphical User Interface

GREEN	Done
RED	Aborted
YELLOW	Cleared
BLUE	Submitted
ORANGE	Ready
MAGENTA	Running