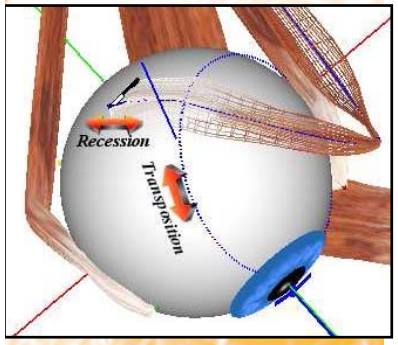


An Extended Design of the "Grid Enabled SEE++ System" Based on Globus Toolkit 4 and gLite

Authors: *K. Bosa, W. Schreiner, T. Kaltofen, M. Buchberger*

Research Institute For Symbolic Computation (RISC), Johannes Kepler University, Linz, Austria
http://www.risc.uni-linz.ac.at

Upper Austrian Research GmbH
http://www.uar.at
http://www.strabismus.at

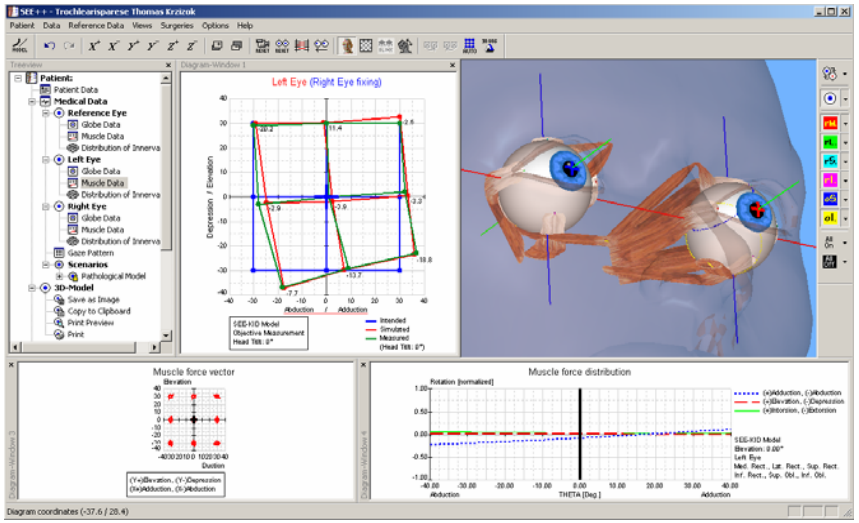
www.eu-egee.org

Information Society and Media

Introduction

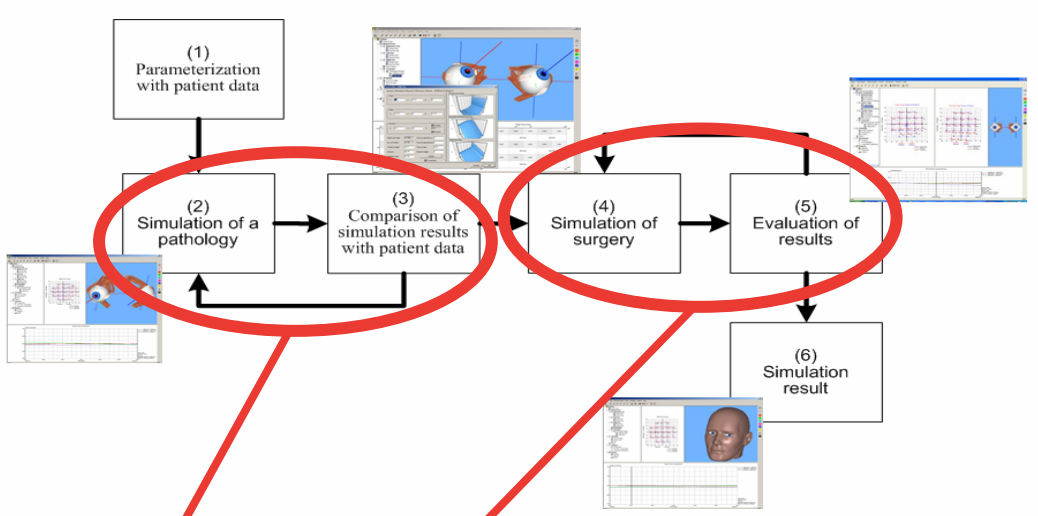
The "Grid Enabled SEE++" deals with the support of diagnosis and treatment of strabismus. The Content of the Presentation:

- **Goals**
- **Previous Results**
- **An Architecture based on Globus 4**
- **Security for the SEE++ Database**
- **A Design of a gLite Compatible SEE++**



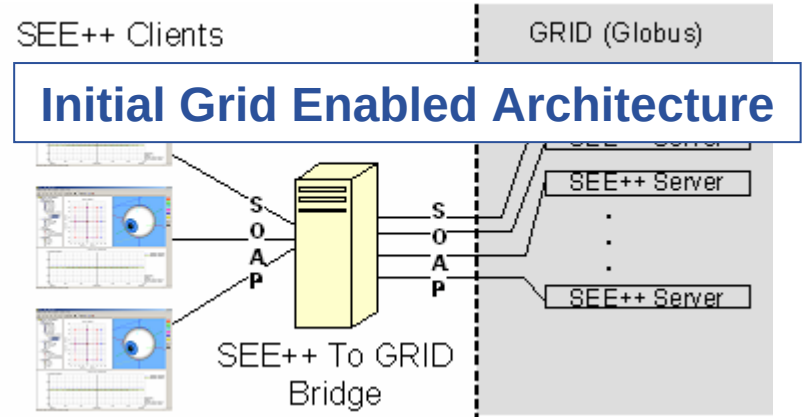
Goals of the “Grid Enabled SEE++”

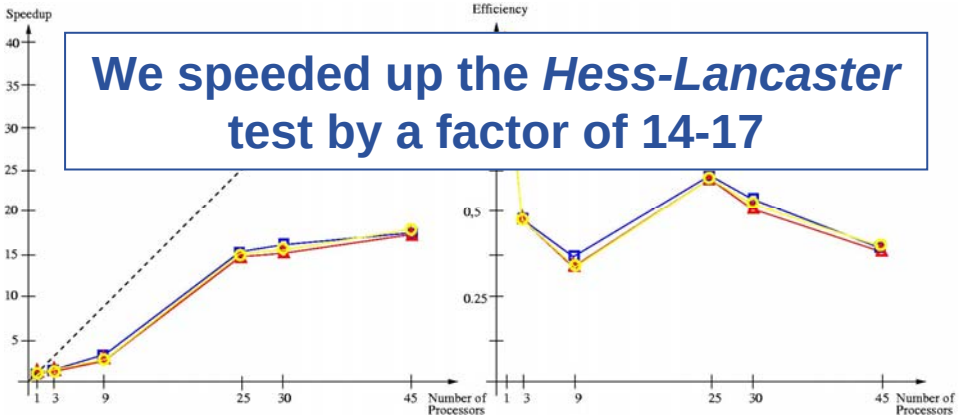
The goal of project is to develop an efficient grid-based tool for ``Evidence Based Medicine'', which supports the surgeons in the following ways:

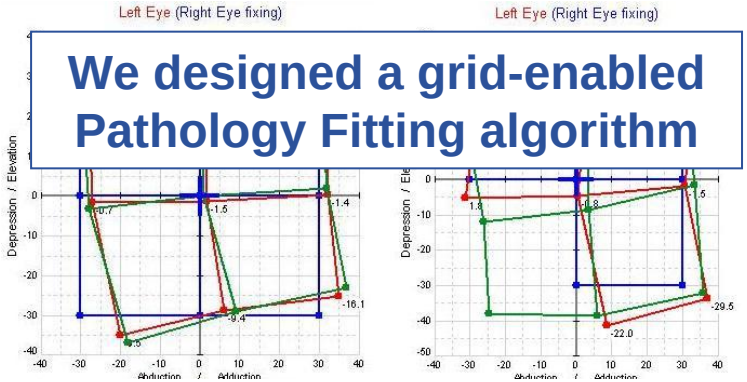


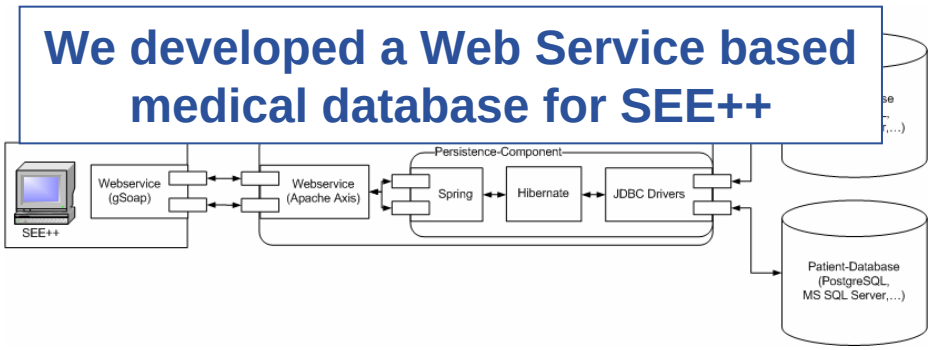
- it speeds up the Hess-Lancaster test simulation (***parallel grid-enabled Hess-Lancaster test);***
- it determines/estimates the pathology of the patients in reasonable time (***grid based pathology fitting***);
- It collects, stores, shorts and evaluates patient data and known pathological cases for improving the future medical treatments (***grid enabled medical database*).**

Former Results



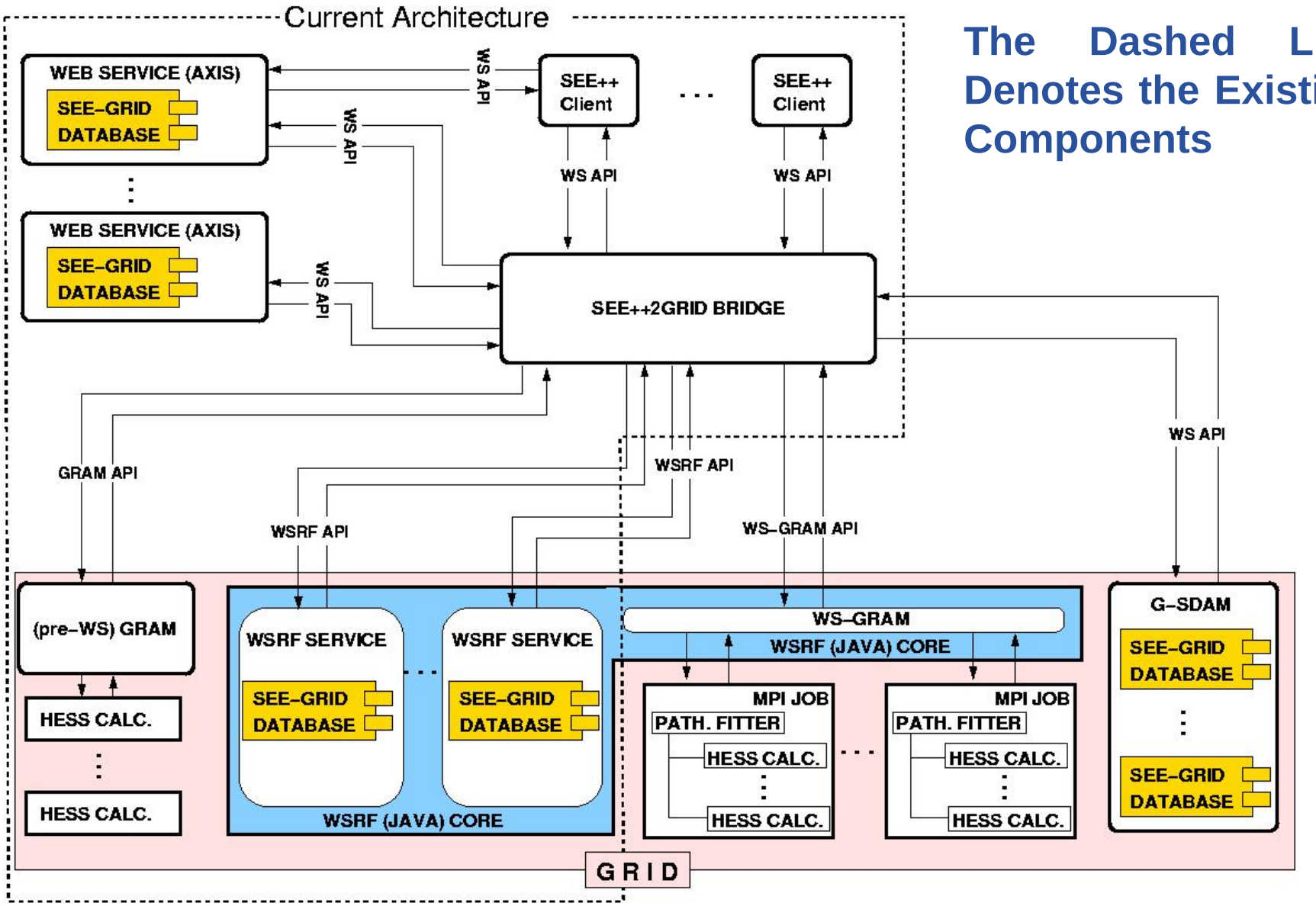






Karoly Bosa, Wolfgang Schreiner, Michael Buchberger, Thomas Kaltofen, *SEE-GRID, A Grid-Based Medical Decision Support System for Eye Muscle Surgery*, 1st Austrian Grid Symposium, December 1-2, 2005, Hagenberg, Austria. OCG Verlag, 14 pages.

An Architecture based on Globus 4



The Dashed Line Denotes the Existing Components

Security for the SEE++ Databases

I.) Security between the SEE++ clients and the bridge (outside of the grid) :

- Encrypting any network transfer via HTTPS or SSL by ***Stunnel***.

II.) Security between bridge and the WSRF Databases (inside of the grid) :

a.) Solutions developed for system

- For each Web Service call, the caller's identity is checked separately (**User ID + Password**).
- Stored user passwords is encrypted with an **SHA-512** salted hash and stored in an independent database.

b.) Solutions provided by the Grid

- Encrypting any network transfer (planned).
- Checking the authorization of the bridge by certificates (planned).
- Managing VOs (planned)

A Design of a gLite Compatible SEE++