NeuroLOG: Neuroscience Application Workflows Execution on the EGEE Grid

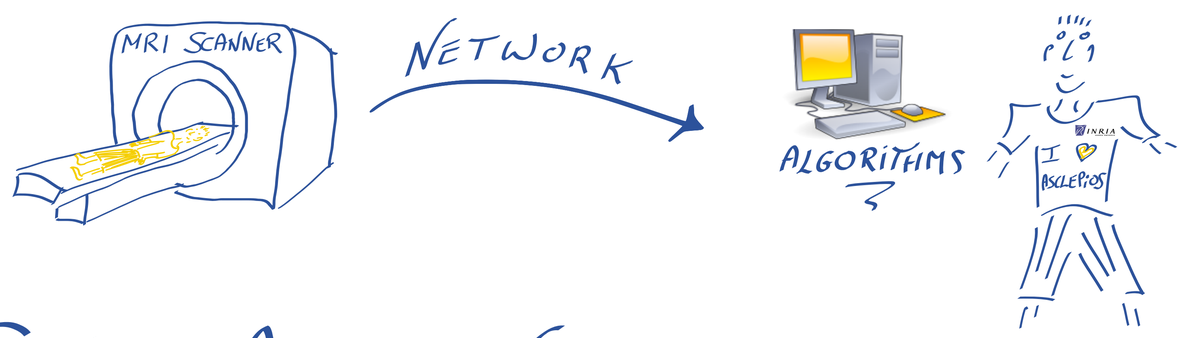
Javier Rojas Barlderrama, Diane Lingrand, Johan Montagnat,
Erik Pernod, Jean-Christophe Souplet, Xavier Pennec

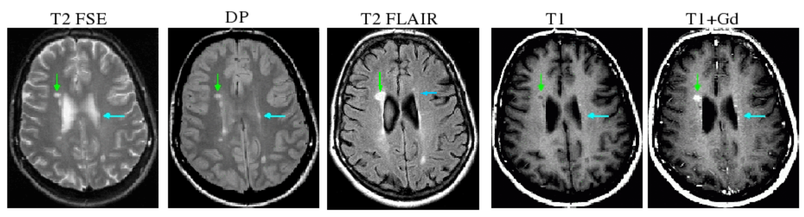
Enabling Grids for E-sciencE

At The Beginning Was

Manual Examination and Measures by an expert.

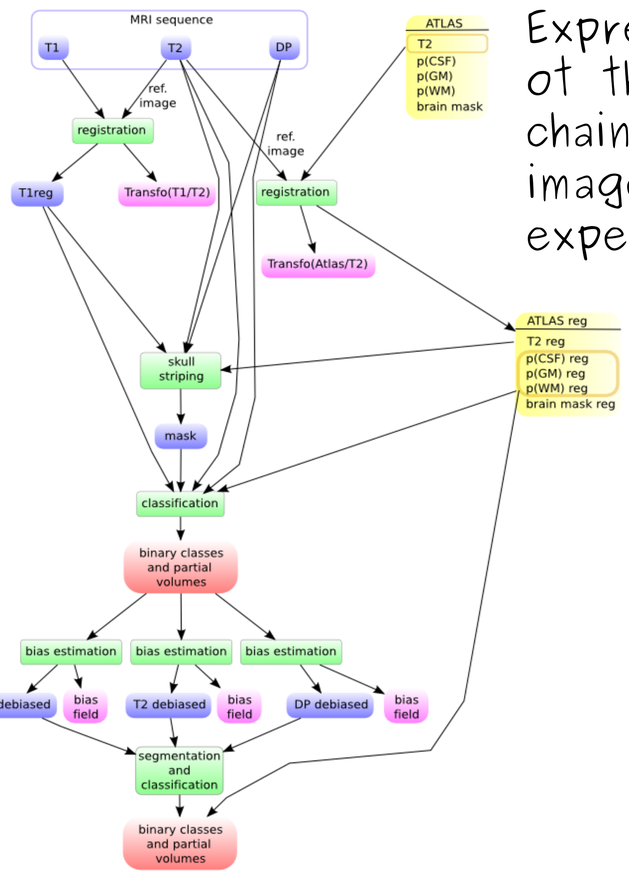
Image Processing Age



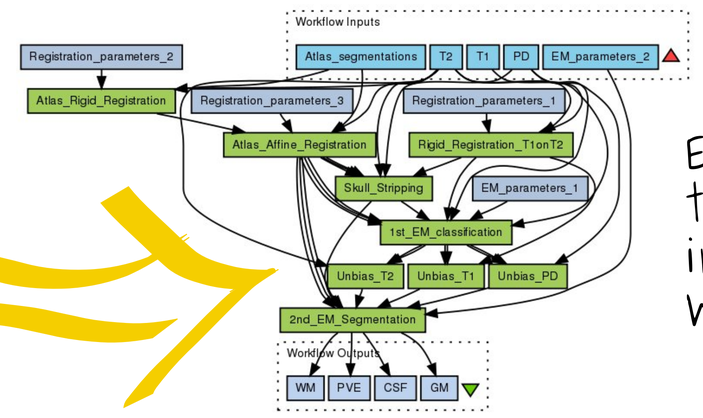


Verification By A Medical Expert

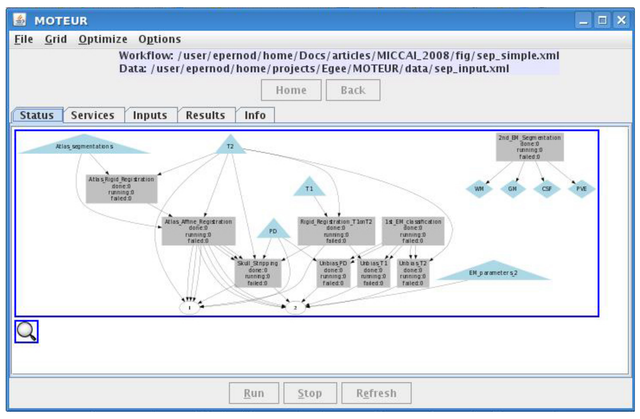
Grid Age (Now)



Expression of the treatment chain by medical image analysis experts



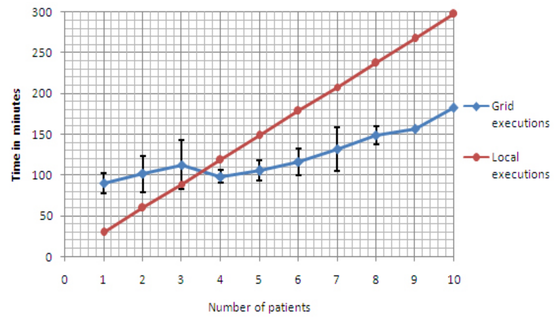
Expression of the same chain in Scufl Workflow langage.



Gridification of the application using MOTEUR

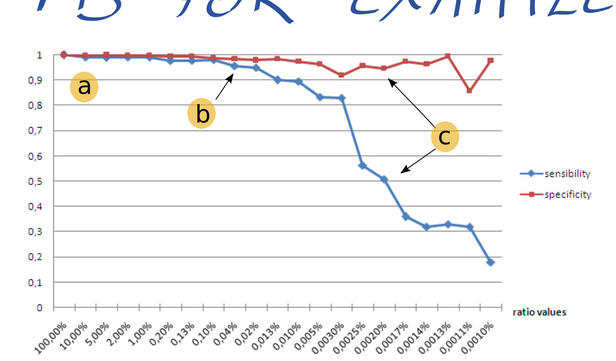
- Splitting code into atomic web services
- re-compilation on the Scientific Linux
- embedding necessary libraries
- removing Matlab dependency

Results

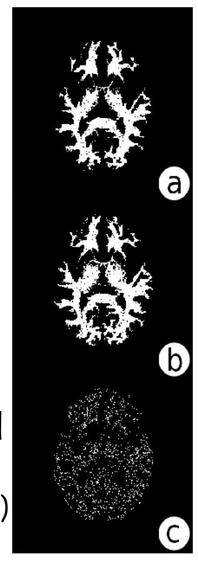


Thus enabling Parameters tuning on Different Patients

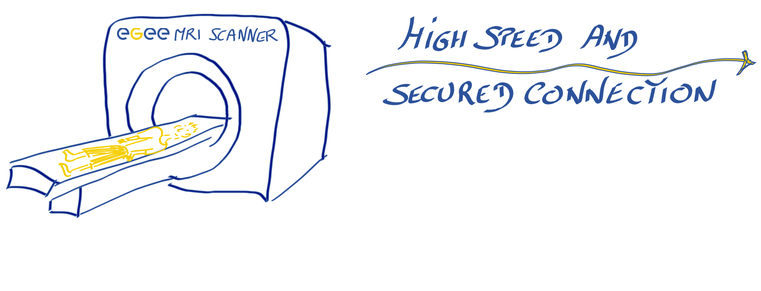
As for example:



Parameter = % of voxels randomly selected
Sensitivity = true WM / (true + false WM)
Specificity = false WM / (true + false WM)



Future (?)



EGEE-III INFSO-RI-222667
http://neurolog.polytech.unice.fr
ANR-06-TLOG-024