Grid efforts in Brazil

The GridUnesp projet and planning towards a statewide Grid infrastructure in São Paulo

Rogerio Iope

OSG sites Coordination Meeting

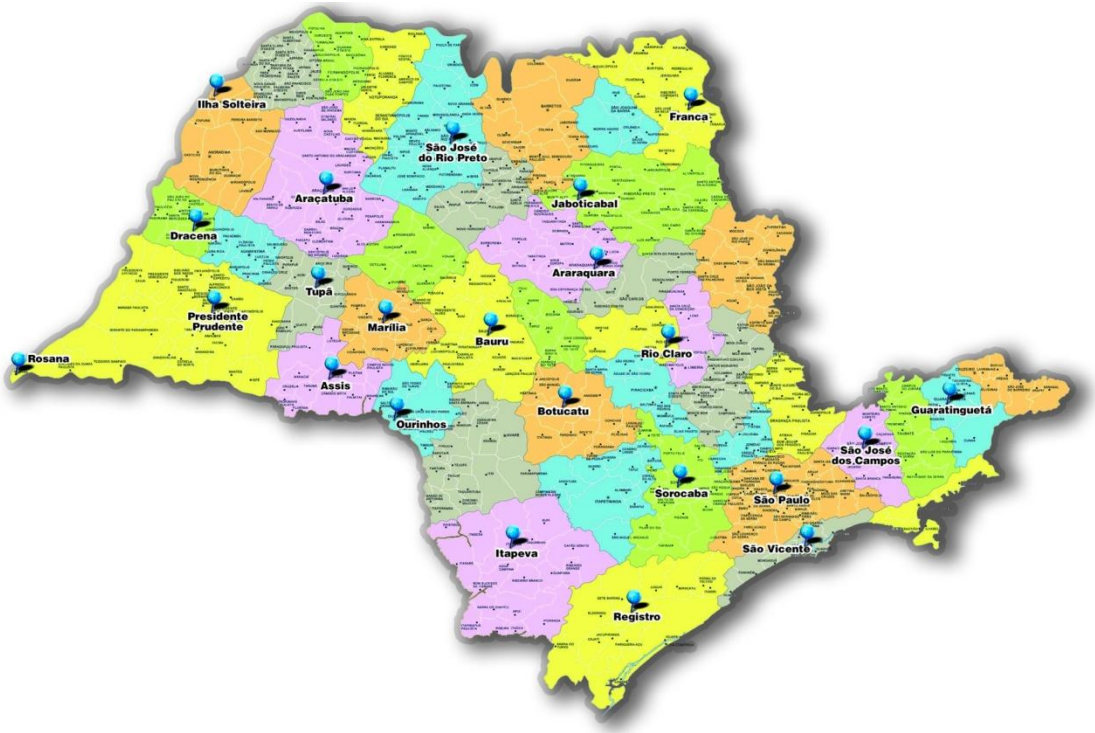
February 10, 2011

The São Paulo State University

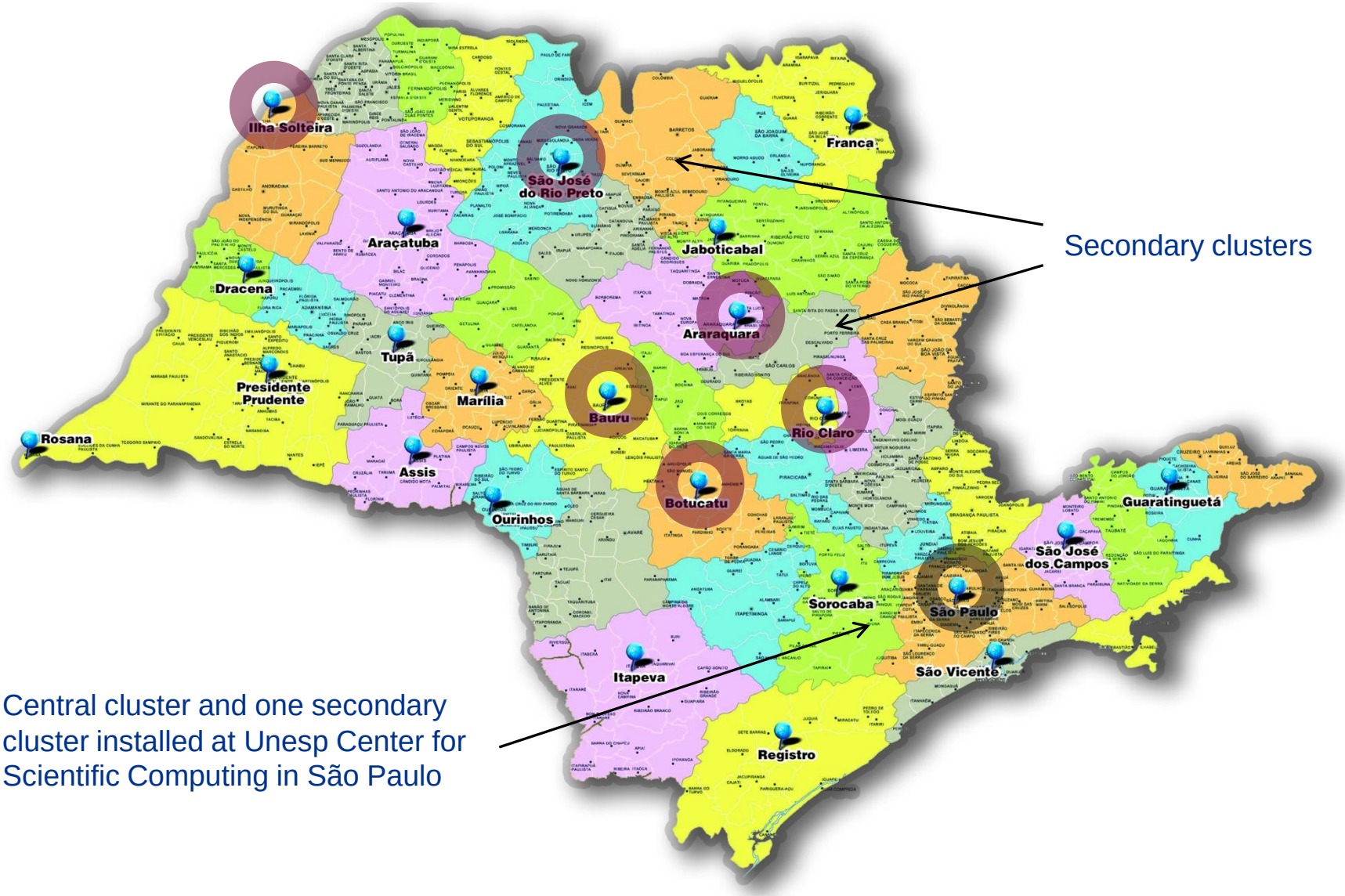
33 institutes, colleges and schools on 23 campuses distributed throughout the State of São Paulo

Second largest university in Brazil; part of the state of São Paulo public higher education system

unesp
UNIVERSIDADE ESTADUAL PAULISTA
"JÚLIO DE MESQUITA FILHO"

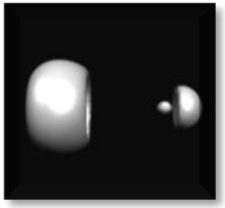


GridUNESP - a multi-campus Grid infrastructure

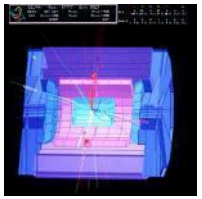


GridUNESP - main research areas

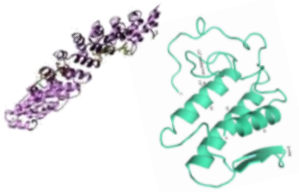
Biological Networks



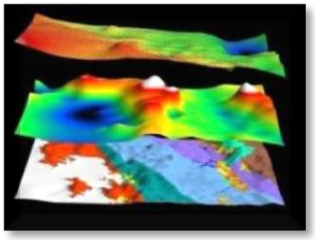
Relativistic Chemistry



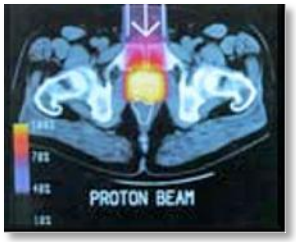
High Energy Physics



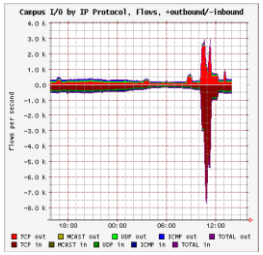
Molecular Dynamics



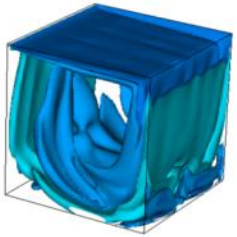
Geological Modeling



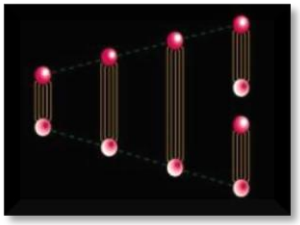
Medical Physics



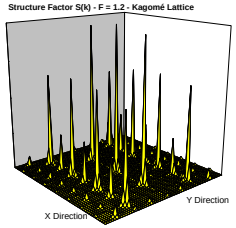
Network Security



Turbulence

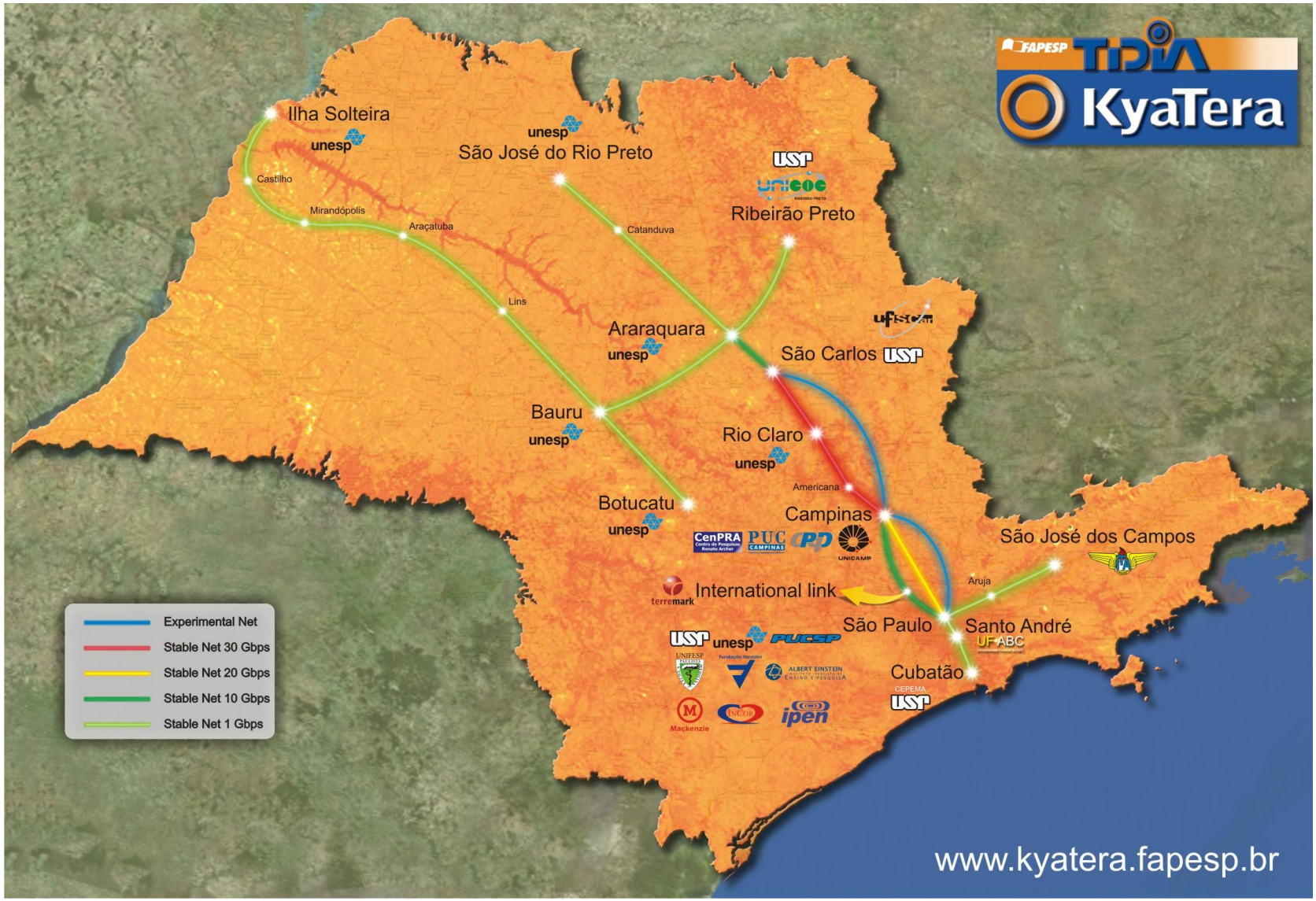


Lattice QCD

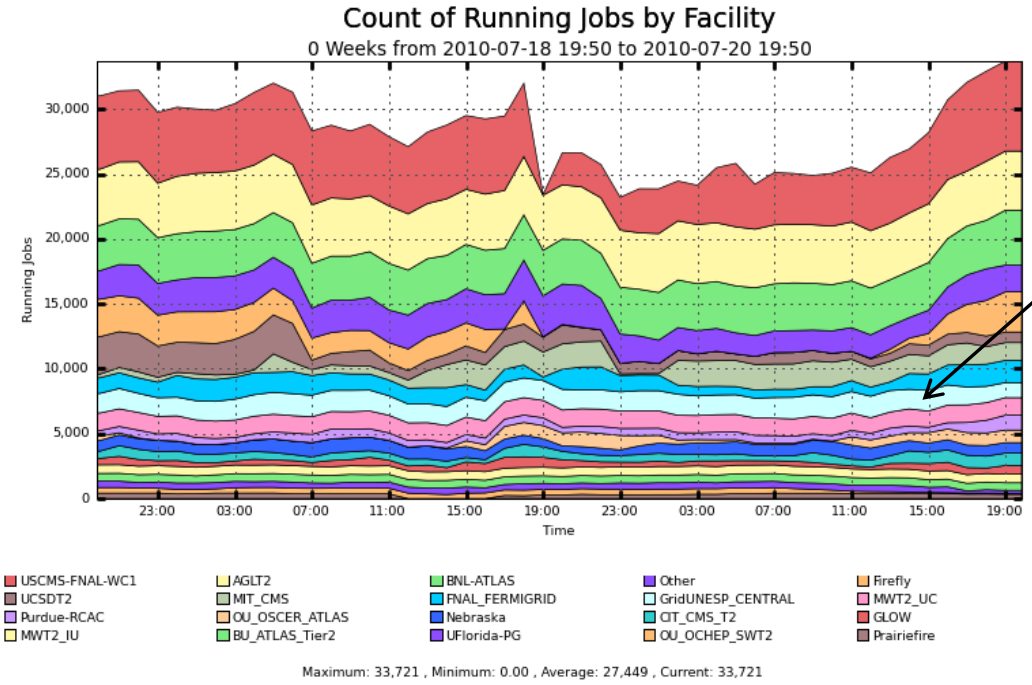


High Tc Superconductivity

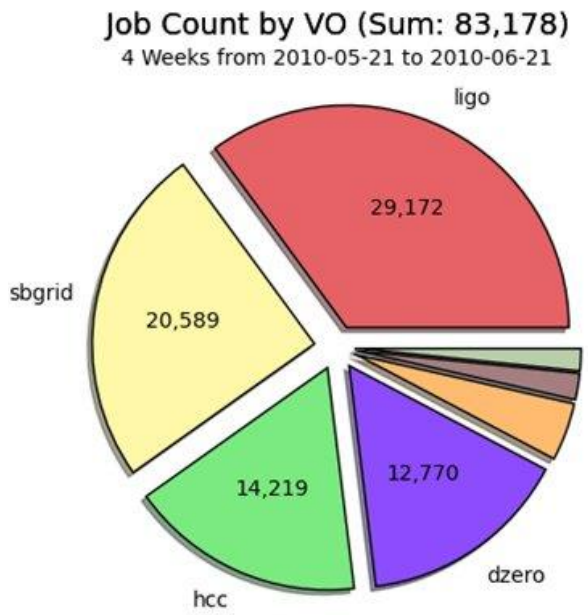
Connectivity between sites: the KyaTera network



Job accounting



GridUNESP (main cluster)



GridUnesp and the São Paulo State Grid initiative

Conclusions and perspectives

One vision for the future of HPC: a Grid of high-performance clusters interconnected by advanced optical metro/wide area networks

→ GridUNESP project designed with this vision in mind

→ but, building a multidisciplinary infrastructure is challenging

A natural next step is to gather researchers from other institutions in order to implement together a wider, multi-institutional Grid infrastructure comprising the mains R&E institutions of the state of São Paulo

→ build a small, multi-institutional testbed, to establish a proof of concept and show the potential that Grid technologies can offer

→ explore the full potential of the KyaTera high-speed research network: all-photonic end-to-end connections interconnecting the main research centers can to be used for leveraging e-Science throughout the state

References

GridUnesp and OSG Agreement

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Slides available at
http://gppd.inf.ufrgs.br/CLCAR2010files/slides/32.pdf