Overview of the Ibercivis project
6th BOINC Workshop

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BIFI - Universidad de Zaragoza

London 2010
BIFI  http://bifi.unizar.es

Research institute (University of Zaragoza) with 3 Areas: BIOCHEMICAL, PHYSICS, COMPUTATION

- HPC
- Dedicated Comp.
- Volunteer Comp.
- Grid

BIFI profile

- Publications
- Dissemination
- Technology transfert

Usage

- Scientific code programming
- Theoretical models

Support

- Resource providers
- Technology research

RESEARCHERS

ENGINEERS

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Ibercivis overview

what it is?
Spanish – Portuguese initiative
BOINC Multiapplication project

innovations?
Cluster approach: Ibercivis mini shell
Easy access: RSA pub. key
Long tasks management (continuity)
Distributed backbone infrastructure
Client compiled for easy registration

added value?
Social components and dissemination
Scientific usage and publications
Ministries of Science involved

Source: http://knowledgebase.e-irg.org/
Scientific communities in Ibercivis

Protein docking: CBMS0 UAM-CSIC
Plasmas in ITER simulation: Ciemat-BIFI
Light in nanoscale: CSIC
Memory molecular structure: CSIC
New magnetic materials: UCM, UNEX, BIFI
Porous materials: IQFR CSIC
Sanidad: Hospital Puerta del Mar
Ibernet: BIFI (Special one, not BOINC)

Protein stability: UCoimbra
Nanoscale wires: Univ. Buenos Aires
Criticalidad: Univ. Autónoma de Puebla

10 apps in production
2 in alpha phase: parallel temp., folding

New applications call open!
Dissemination activities in Ibercivis

People involved?
Technical staff, scientific users and dissemination entities

Restrictions?
Only volunteers recruitment, not institutions with massive installations, yet

Work done?
Awards: Credits/CPUPTime and accepted invitations (categories, regions)
Public events and dissemination material: leaflets, posters
Media: press-releases, tv appearances
Facebook (739 people like this), blogs (technical, applications), forums
Secondary schools: talks, didactical units (fusion, docking, computing)

Invitations tree in Ibernet (50 days)
Ibercivis architecture

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PandoraFMS + nagios:
http://monitor.ibercivis.es
User: ibercivis
Pwd: ibercivis

* Sites interconnected at 2Gbps
Distributed Scheduling

Two schedulers in two physical servers (Zaragoza – Lisboa)
In production since June 2009
Random requests from boinc clients = unbalanced result sending

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<th>2</th>
<th>6</th>
<th>10</th>
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<tbody>
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<td>2</td>
<td>6</td>
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<tr>
<td>Zaragoza mod(id,8)=6</td>
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<td>6</td>
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<tr>
<td>Lisboa mod(id,8)=2</td>
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Solution (currently in alpha systems)
If (Zaragoza << Lisboa) set mysql offset = 6 autoincrement = 8
If (Lisboa << Zaragoza) set mysql offset = 2 autoincrement = 8
else
Some stats

Users (total | day): 20K | 2,4K
Connected cores (day): 8K - 9K
Equivalent cores (day): 1,4K
CPU hours / day: 30K – 35K
Scientific users: 10+2+1
Thanks for your attention