



PARTNERSHIP FOR ADVANCED COMPUTING IN EUROPE

Gaining Access to European Resources (DEISA, PRACE)

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Courtesy to Ana Bela Dias (NCF, The Netherlands for several of these slides)

Overview

- **Distributed European Infrastructure for Supercomputing Applications (DEISA)**
- **Partnership for Advance Computing in Europe (PRACE)**
- **Calls for Proposals within PRACE project**
- **Details on Application Procedures**

DEISA

DISTRIBUTED EUROPEAN INFRASTRUCTURE FOR SUPERCOMPUTING APPLICATIONS

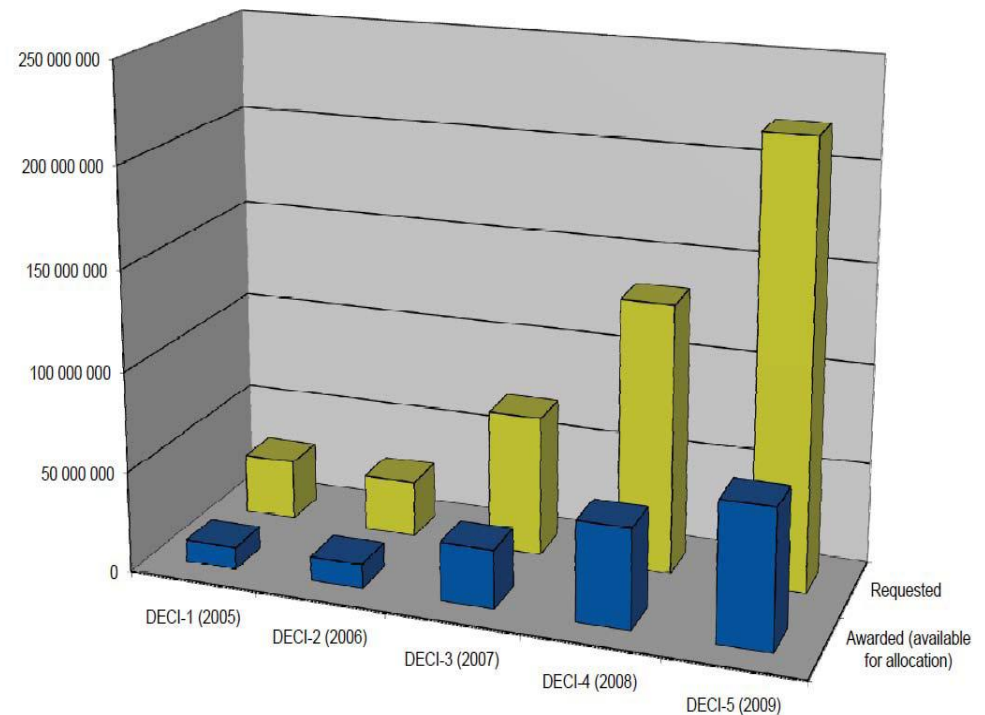
- DEISA is a consortium of leading national Supercomputing centres that aims at fostering the pan-European world-leading computational science research.
- It is funded by the European Commission in FP6 and FP7 frameworks.
- The infrastructure established since 2002 and is based on a tight coupling of eleven national supercomputing centres from seven European countries, using dedicated network interconnections of GÉANT2 and the NRENs.



For more information see www.deisa.eu

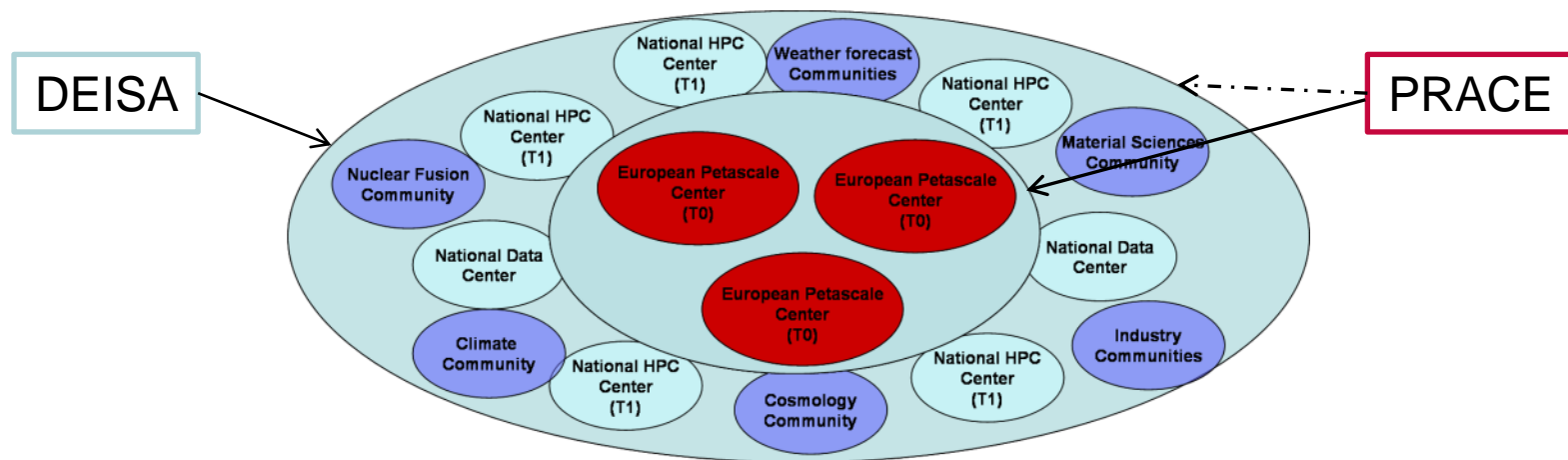
DEISA: overview and facts

- Starting from the year 2005 there have been six DEISA Extreme Computing Initiative (DECI) calls for applications
- 2005 – 2006:
 - Number of accepted application was about 30
- ...
- 2009 – 2010:
 - The number of applications was 84
 - The total requested computational time was 250 million hours
 - Available computational time was 68 million hours
- 2010 – 2011:
 - The number of applications was 122
 - The total requested computational time was more than 0,5 billion hours



DEISA and PRACE

- DEISA1 and now DEISA2 were/are paving the way towards the deployment of a cooperative European HPC ecosystem.



- DEISA2 is closely cooperating with the PRACE initiative.

PRACE

- The Partnership for Advanced Computing in Europe (PRACE) is a pan-European Research Infrastructure for High Performance Computing (HPC). It is a Framework Programme7 (FP7) project.
- PRACE aims to maintain up to six top of the line leadership systems (Tier-0). Each system will provide computing power of several Petaflop/s (one quadrillion operations per second).
- PRACE allows researchers from across Europe to apply for time on high-performance computers via a central peer review process.



PRACE

Two different calls for proposals are/will be open for researchers within Sweden:

- 1. Call for proposals for PRACE Prototype at PDC with a particular focus on Energy-Efficient Computing. The call is open by SNIC, one of the PRACE partners.**
- 2. Call for proposals for compute time on PRACE pan-European petascale systems.**

PRACE: PDC Prototype Machine - Povel

Povel has:

- 180 nodes
- 4 Six-Core AMD Opteron 8425HE CPU's per node for a total of 24 cores
- Total of 32GB RAM per node
- Approximately 2700MB/s interconnect bandwidth per node

The call will be open in following days...

- Applicants must agree to report their results to SNIC and to PRACE (via PDC) no later than one month after completion of the work.
- Applicants must also agree that applicants' names and affiliations--as well as a summary of the project and the results achieved--may be made publicly available on the PRACE website and may be used in PRACE documents.

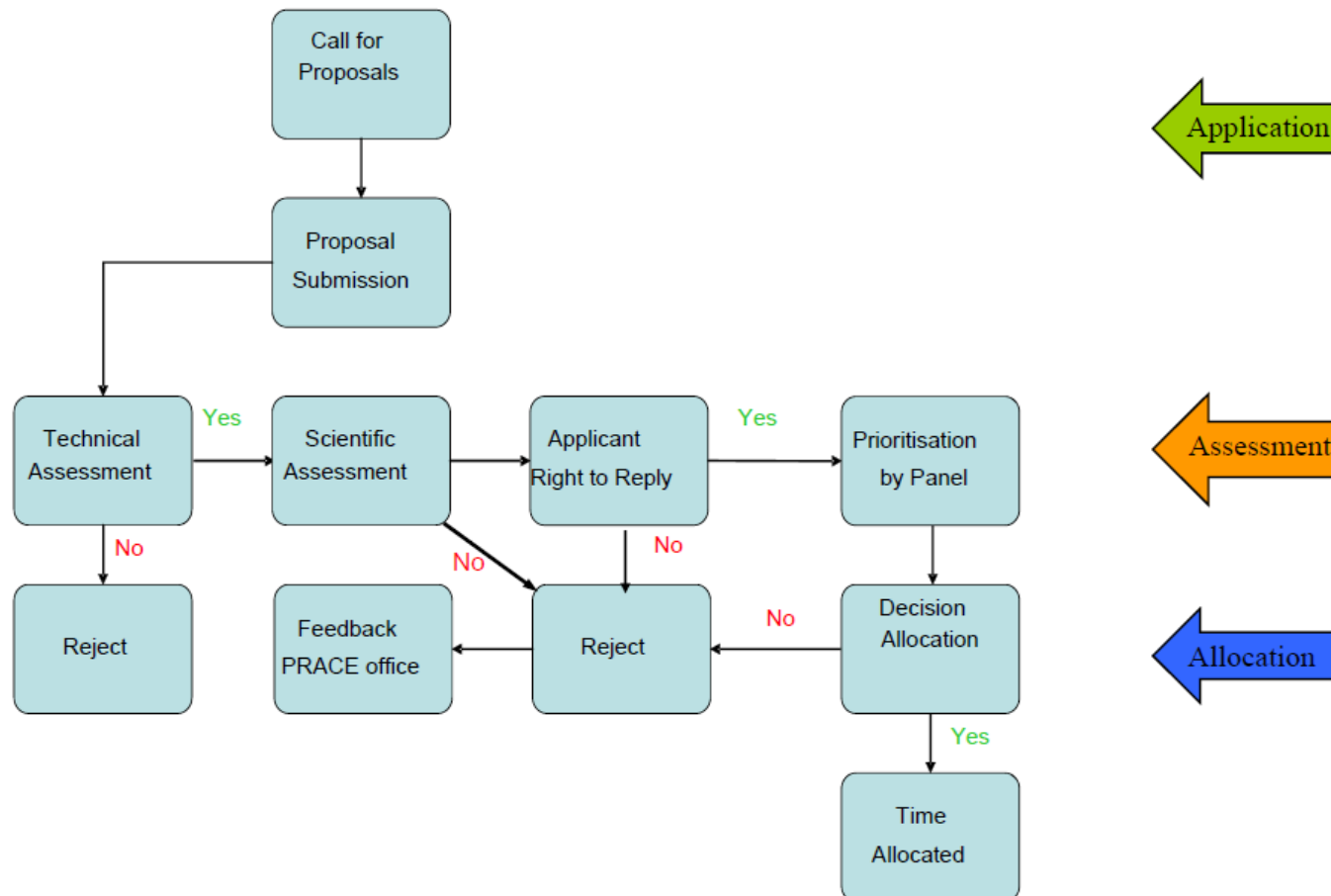
PRACE: pan-European Systems

Types of proposals

- ❖ Preparatory access (code testing, optimisation and development) – **only technical peer review; support of software experts if necessary; maximum 6 months allocation**
- ❖ Project access – **both technical and scientific peer review; 1 year allocation**
- ❖ Programme access – **both technical and scientific peer review; 2 years allocation**

Preparatory access always follows with project access.

Peer review process



Fully operational, secure on-line application system (CINES – France)

- ❖ Fully electronic submission
- ❖ Automatic rejection of post-deadline and incomplete applications
- ❖ On-line peer review (including reviewers' reports and applicant's reply)
- ❖ Track application status (PRACE staff and applicant)
- ❖ Electronic submission of reviewers' reports

Allocation

- ❖ Allocation according to Prioritisation list
- ❖ Possible cut-off in prioritisation list
- ❖ Publication of abstracts of granted projects at PRACE website, except for confidential projects
- ❖ Applicants must submit a report at the end of the project (mandatory)

Machines available

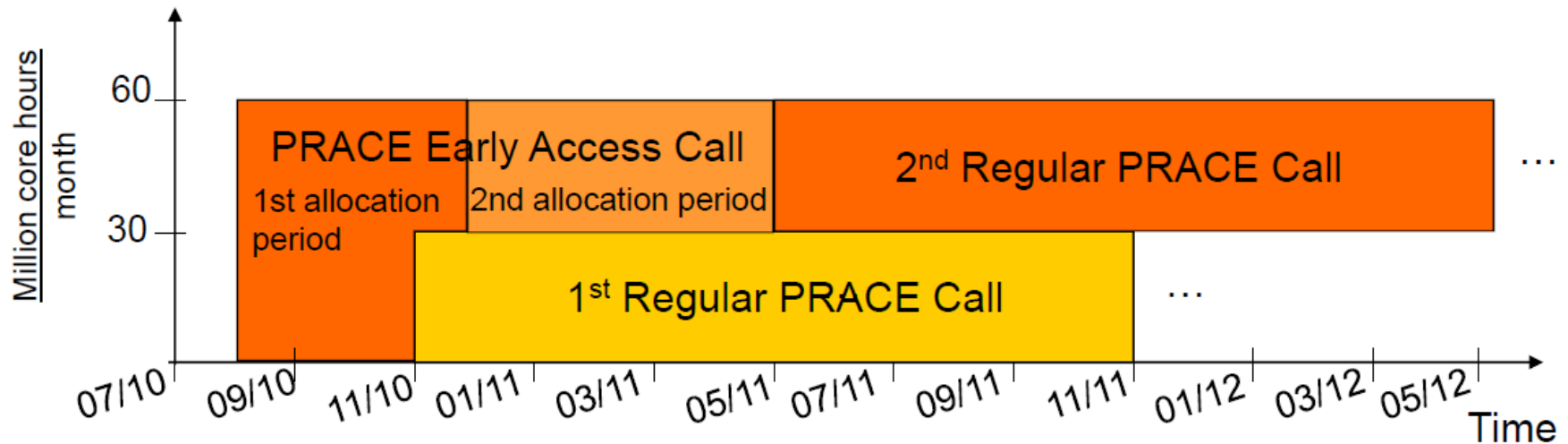
- ❖ JUGENE IBM BlueGene/P – FZJ, Jülich, Germany:
http://www.fz-juelich.de/jsc/service/sco_ibmBGP
Storage capacity:
<http://www.fz-juelich.de/jsc/jump/usage/FAQ/data-limits>
- ❖ Next machine available – GENCI, France
Summer 2011

PRACE calls: JUGENE

Previous calls:

- The first PRACE early access call was open until 10th June
- 1st PRACE project access call was open from 15th June until 15th of August for allocation starting from 1st of November
- 68 applications requesting a total of 1870 Million compute hours were received
- Ten research projects accepted: five from Germany, two from the UK one each from Italy, the Netherlands and Portugal
- In total 321,4 Million compute core hours were granted

PRACE calls – JUGENE – Jülich



Summary

- SNIC call for PRACE prototype will be open soon...
- The 2nd PRACE regular call will be open as well... refer to <http://www.prace-project.eu/hpc-access>