

HET, High-Performance Computing in Europe Taskforce

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e-IRG workshop
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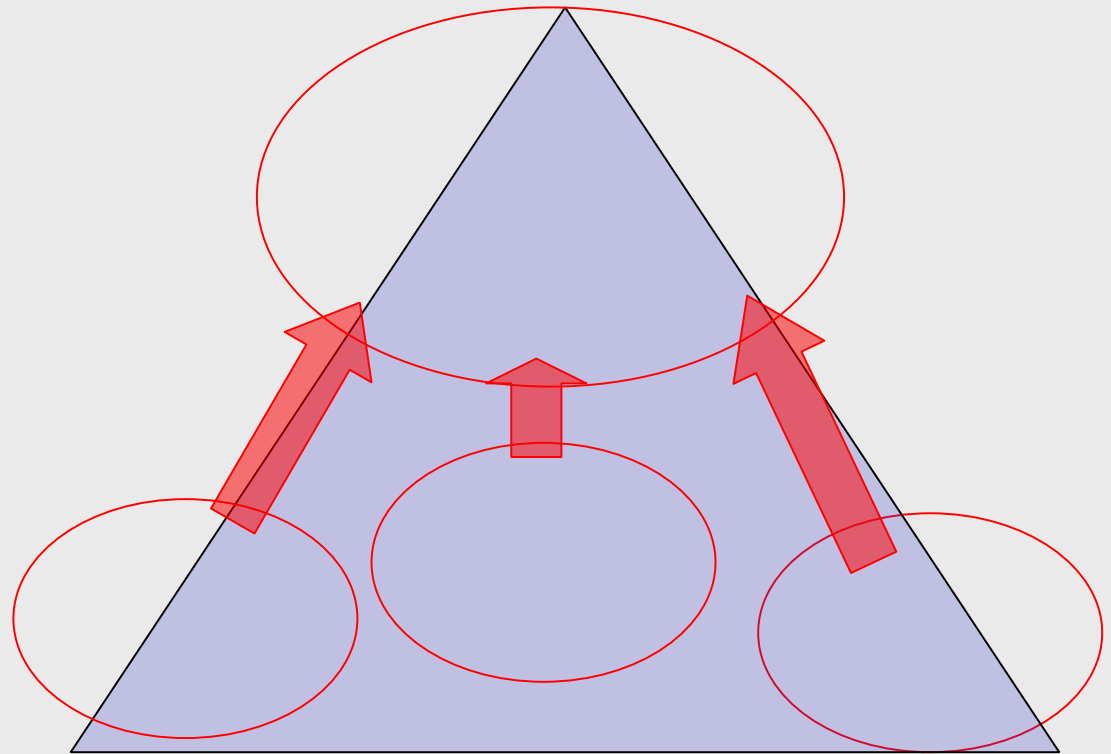
HET

**NOTE! HET work is still in progress,
No final results available yet**

- **Target to propose a strategy for European HPC Ecosystem, with a focus to the high-end**
- **Founded in June 2006 in Vienna, Austria**
- **Temporary taskforce with deadline for results end of 2006**
- **Utilizes the results achieved during previous HPCEUR project**
- **Considers the whole performance pyramid**
- **Members from 11 countries: Austria, Finland, France, Germany, Ireland, Italy, the Netherlands, Spain, Sweden, Switzerland, United Kingdom**

Proposed HET Scope

- **The upper layers of the pyramid**
 - HPC centers / services
 - HPC related Grid-projects (Deisa/eDeisa, others)
- **Activities which enable efficient usage of upper layers**
 - Inclusion of national HPC infrastructures
 - Software development and scalability issues
 - Competence development
- **Interfaces to National Grid Infrastructures (NGIs)**

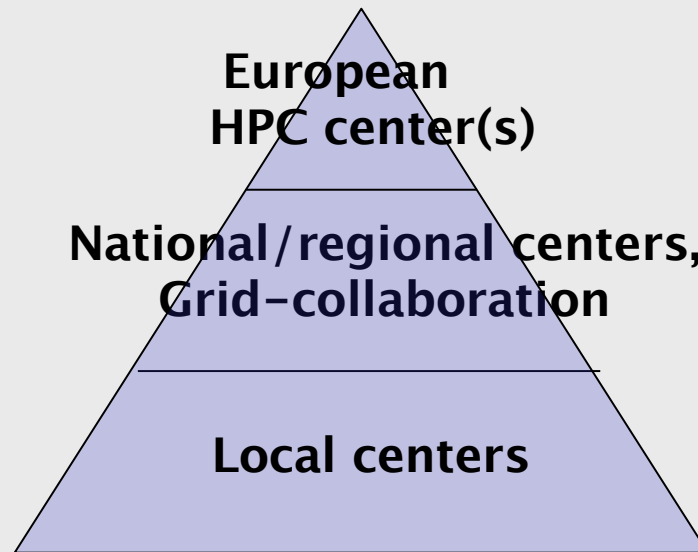


HET tasks

- **Scientific case**
 - **European ecosystem for HPC**
 - **Funding models**
 - **Peer review process**
 - **Dissemination**
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- **Progress in each area, but still needs to be finalized**

Basic Ecosystem

- **Balanced approach with sufficient peak and strong base of the pyramid**
- **Access to the extreme computing power for the top European scientists**
- **Strong support by software and competence development activities**
- **Methods to allocate cycles and exchange infrastructure and competence based resources**
- **Inclusion for the whole European Union**



How to ensure sustainability?

- **Integration and compatibility with national infrastructures, since they will be maintained anyway**
- **Building on the current HPC-related work, such as successful European research infrastructures projects (for example “a la Deisa”)**
- **Sufficient amount of communication between the national centres**
- **Steering by an existing European group with strong mandate**
- **Financial support from European union**
- **Acknowledgement of the importance of computational resources in increasing number of sciences**

How to strengthen European position in HPC?

- **Europe is not likely to get the #1 computer of TOP500, thus we need to decrease the gap with other methods, for example:**
 - Balanced TierX approach with efficient collaboration
 - Code optimization and scientific code development: sustained performance is the main focus
 - Strong multi-scientific competence across the EU countries with effective skills development through training
 - Excellence in building centralized and distributed cluster systems with impact from optimization of scientific code (integrator role)
 - Effective collaboration between EU countries
 - Low bureaucracy in accessing computing resources
 - Europe is leading in middleware development: ARC, gLite, Unicore, AAA, security, ...



Some HET issues

- **How to interact with existing EU-supported HPC projects?**
 - Deisa/eDeisa, EGEE-II, etc.
 - HPC Study project starting later this year
- **How to involve pre-commercial procurement activities?**
 - Focus of EU
 - What are the methods to increase European HPC industry
 - R&D and manufacturing of non-European companies to Europe?
 - Promoting European HPC industry where possible?
- **How to give input to HET work**
 - Input welcome through HET members (name list will be published in HET Web pages)

What next

- **Next HET meeting in October 17th in Helsinki**
- **The strategy paper will be composed during October-November, finalization in December**
 - Comments and input welcome
- **HET Web is used for publishing the results:**
<http://hpcineuropetaskforce.eu/>