e-Infrastructures *(Athens, 12 June 2003)*

Towards a common European Networking & Grids infrastructure area *- how can it work?*

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Grids: one of “Ten technologies that will change the world”,

MIT Technology Review, 2003

What is the advantage for science, business?

From discrete infrastructure components to distributed information processing model where people share, do not own IT-resources

- Organisations can focus on business objectives rather than on upgrade/operation of (underused...) IT-infrastructures - better alignment of business objectives with underlying IT-infrastructure
- Skilled (IT) people always at scarce...
- *"One stop shop"* service to users for accessing IT-resources *(Grids: a public utility)*
- Real-time collaboration patterns (of global scale)

How evident is this advantage?

- Technical issues: security, QoS, easy service creation...
- Understanding central business needs where Grids can bring more immediate benefit

  (e.g. helping businesses harness their IT-infrastructure may be more important than providing access to supercomputing power..)
- Price for performance: improves with homogeneity of policies for accessing & using discrete resources

  (e.g. commodity compute time now costs roughly a penny a gigahertz/hour - if Grid access costs more, building a dedicated supercomputer is a more attractive economical proposition…)

What are the non-technical aspects?

"If we move to a global Grid, we need agreement on a global infrastructure… We will be managing a cultural change; people will need to broaden the scope of their thinking."

Major EDA chip manufacturer (Platform Computing survey)

"When you try to build a Grid and you have to do it within a company, you have to set policies and guidelines and everyone has to agree to give up their own resources into a shared pool. A global infrastructure causes global problems."

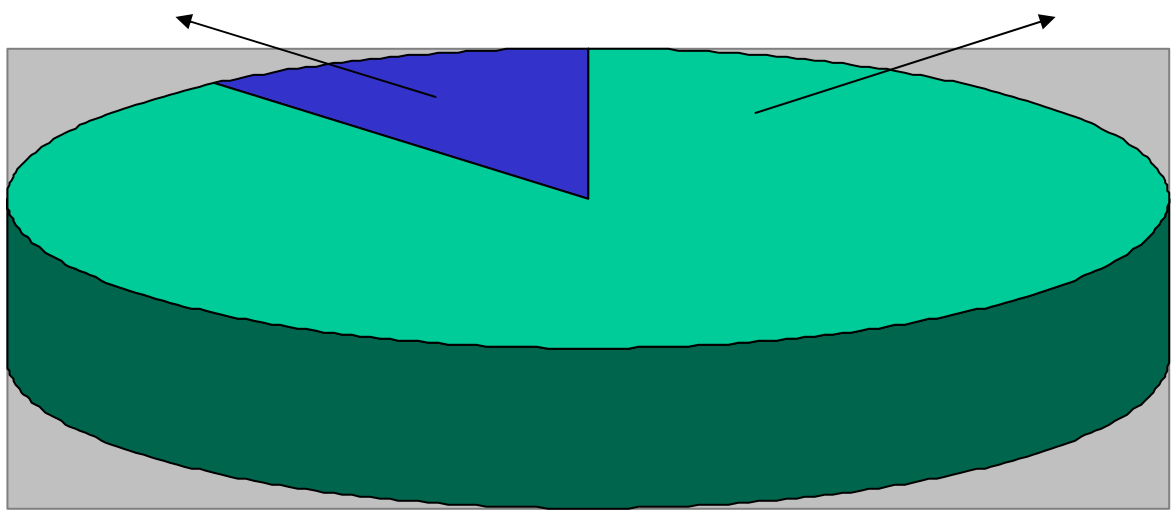
IT project leader, global auto manufacturer (Platform Computing survey)

Non-technical barriers

- A survey in the US (by Platform Computing) had as a purpose to determine the nature and severity of non-technical barriers that impact the widespread adoption of Grids on enterprise scale

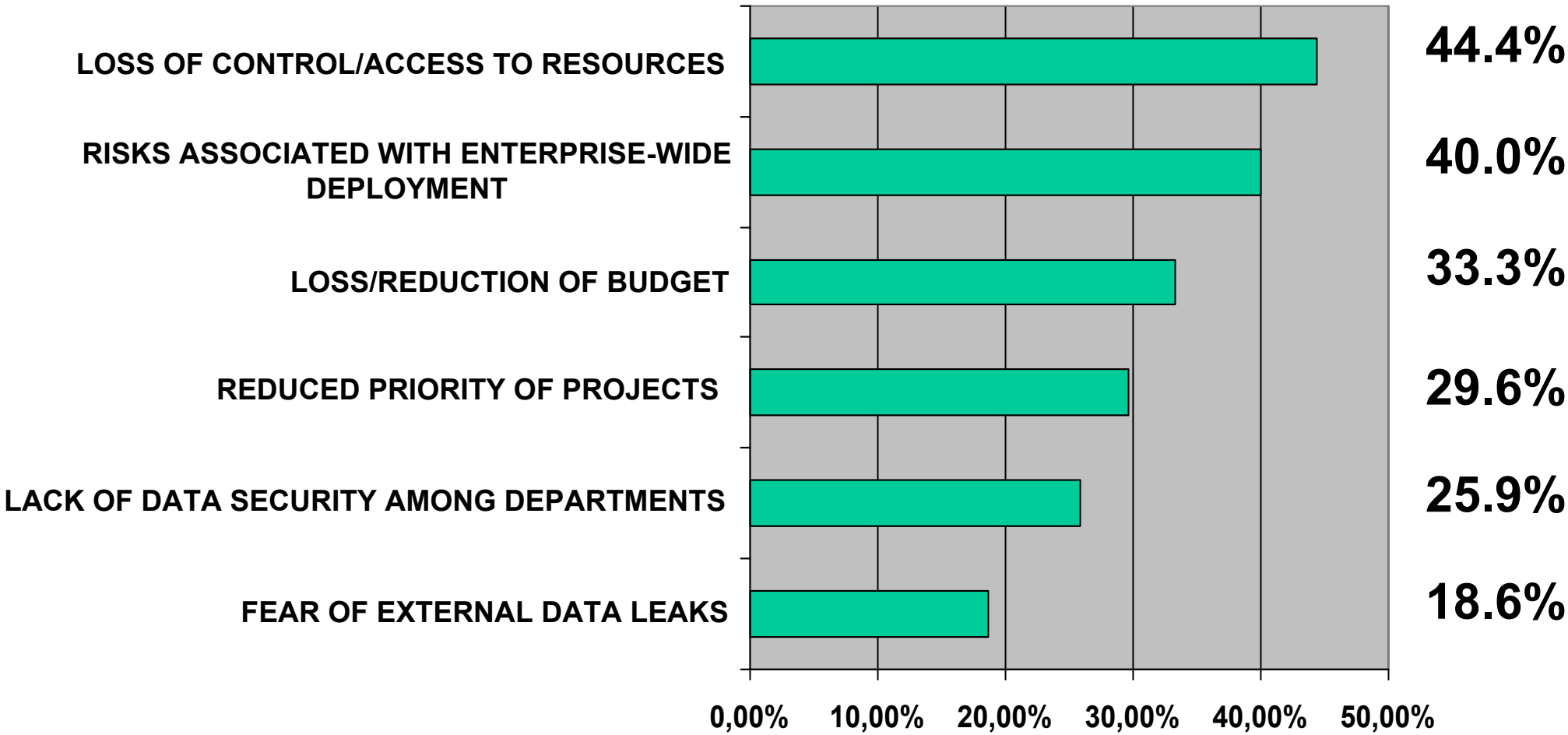
Answers to question: are organisational politics a barrier to implementing Grid?

NO (11%)



YES (89%)

Key findings of the survey



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Some conclusions and observations...

- Non-technical aspects including Organizational policies are significant barriers in the implementation of resource sharing technologies (Grids)
  - People do not (in general) have a resource sharing attitude
- Very different policies of accessing resources across institutions, application domains, national boundaries in Europe

The harmonization of such policies at all levels is a major challenge!

What did we learn in Europe from GÉANT?

- Tackling connectivity resource sharing policy aspects on European level resulted in a pan-European coverage by a high-speed research network (the fastest in the world) that provides affordable access to all researchers
  - full-fledged administrative & operational support
  - a policy committee to resolve policy issues

Interconnecting people matters more than interconnecting machines!

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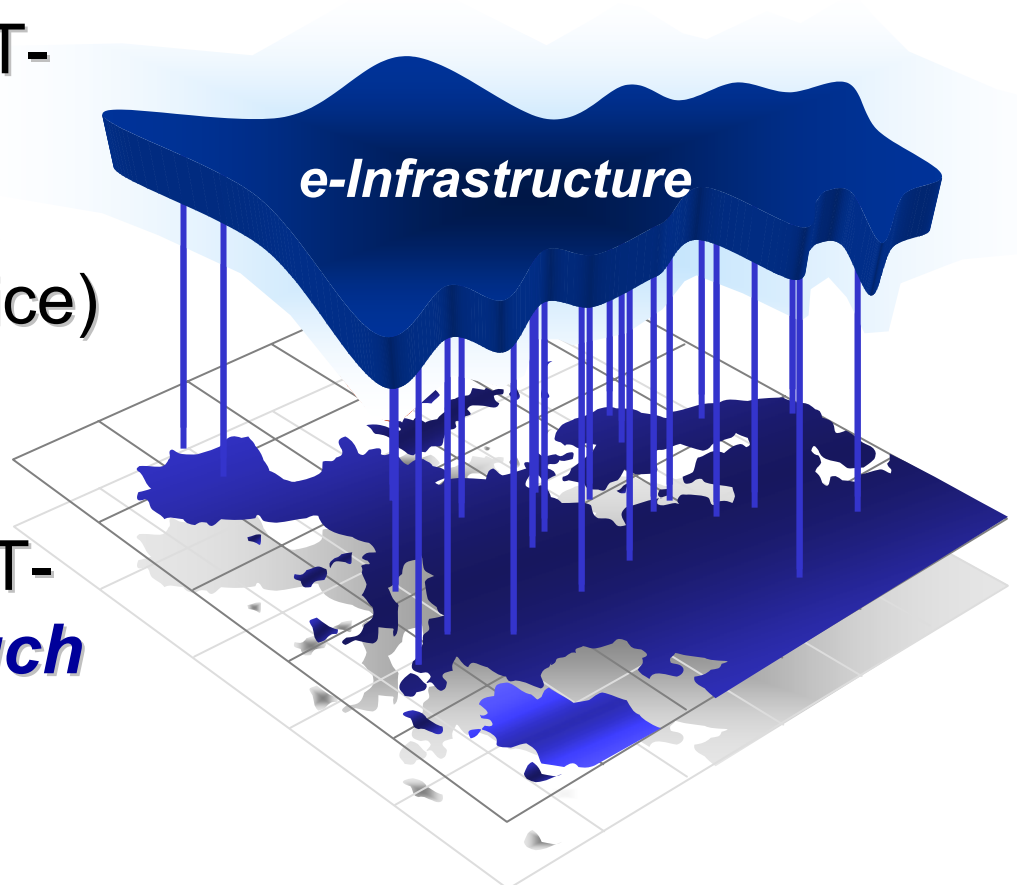
The e-Infrastructure (policy) challenge

- An *e*-Infrastructure in Europe to provide “one stop shop” IT-service to researchers (fully integrated communication & information processing service)
- Create structures and mechanisms to harmonize access and use policies of IT-resources ***(the only way such a scheme can work!)***
- For *e*Science and beyond..



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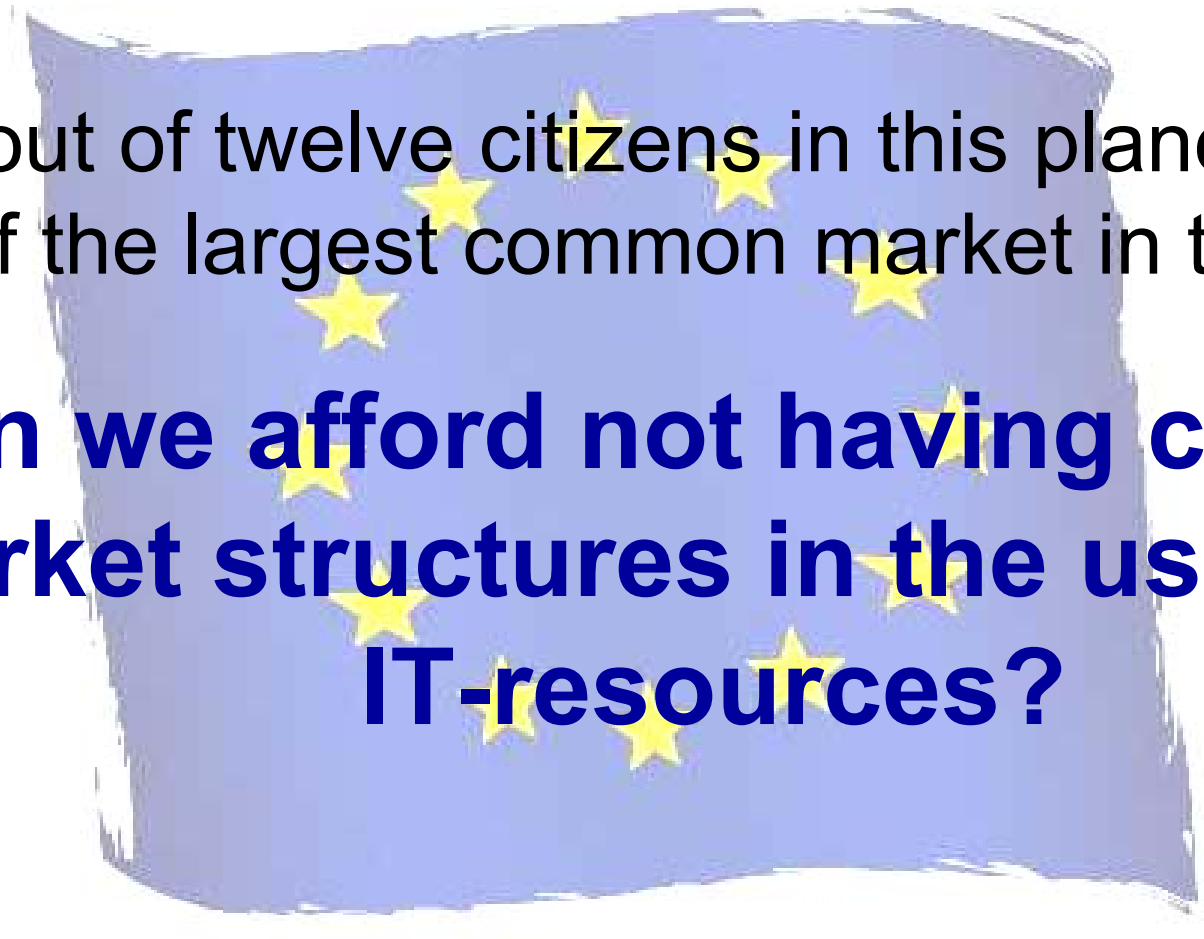
What is the way to go?

- Formulate an e-Infrastructure policy framework
- Create appropriate administrative, operational and policy support schemes for IT-resource sharing
  - on institutional, scientific discipline, national levels
- Set up a high level expert committee to monitor the process and provide advice?
- Existing mechanisms may be ok but make sure all interests and groups are sufficiently represented!
- Allocate EU funding to catalyse the process?

A common market for IT-resources...



One out of twelve citizens in this planet is member of the largest common market in the world

Can we afford not having common market structures in the use of our IT-resources?

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