The European Science Grid Organisation

Debatable suggested title (just one of the possible visions):

European?
Science?
Grid?
Organisation?

Objective of the Session:

- Investigating necessity & possibility of establishing an organisation
- Answering questions
- Providing recommendations

The goal is to look for a constructive approach – joint wish/interest of

ESFRI (the forum for Research Infrastructures in general)
e-IRG (the group devoted especially to eInfrastructures)
ENPG (the European Networking Policy Group)
NRENs (the research communities operating the network)
TERENA (the Trans-European R & E Network Ass.)

eInfrastructures – a European Science Grid Organisation

Introducing and moderating the session:

Impossible mission - but therefore no risk of failure

A crazy undertaking - suited for a non-expert
(openness, lack of specific interest/bias)

A challenge - but hard to remain neutral
(however: just personal view – if any!)

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What organisation?

Devoted to .....
(in a wide sense – but within boundaries)

Enabling .....
(common, easy, secure, cost-effective use of resources)

Coordinating .....
(integrating multiple ideas, activities, interests)

Supporting .....
(providers and users)

Motivating .....
(innovative applications, improved resources and tools)

Controlling .....
(if control is desirable/necessary)

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What questions?

- Time-frame
- Grid(s) definition
- Extent of coverage
  (technical – organisational – financial + geographical)
- Involved resources / providers
- Involved users
- Involved applications
- Desired rigidity of rules and regulations

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What recommendations? (If any ...)

- Top-down or bottom-up
- Aims – goals – tasks
- Organisational framework
  (level, structure, fragmentation)
- Powers and responsibilities
- Financial background
- To-do-list

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Why ”grid”? Rather: a new Grid service on the eInfrastructure (?)

Grid is
- a huge set of interconnected resources
- an integrated eInfrastructure (VPNs ⇨ ”VPMs”)
- available for dedicated re-configuration (a service)
- accessible for any registered/approved user

(tomorrow – the goal to reach)

grids are
- dedicated constructs serving specific goals
- built up by integration of selected resources
- serving as prototypes / pilots
- available for a closed community

(today – the lessons to learn)

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Why ”science”? Rather: full NREN community coverage (?)

NRENs
- are key players in eInfrastructure
- provide the high speed e2e network
- provide tools/basic services
- provide support (resources, users/providers)
- have 10+ years of practice and experiences
  (policy, strategy, coordination, management ...)
- have a proven model of organisation/operation
  (cf. HEPNET vs. TEN-34, TEN-155, GEANT)
- comprise the entire academic and research community

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Why ”organisation”? Rather: just an improved framework (?)

Vision:

- global set of approved resources
- global high speed network for VPNs (e2e)
- standards for seamless integration + interoperability
  (GGF like IETF?)
- tools for flexible re-configuration
  (unified! - cf. TCP/IP vs. SNA, DECNET, OSI...)
- rules for resource providers + users + applications
- AAAI for practical exercising the rules
- forum/organisation for coordination
- further groups for development/piloting

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Glossary for common understanding and uniform interpretation:

Resources:

elements of an information infrastructure (eInfrastructure)
(boundaries: at related interfaces)

application-independent HW+SW components
(for processing – storing – transcieving)

instruments' interfaces (measuring, testing, etc.)
(sensors/actuators beyond the boundary)
(non-IT generation/utilisation of information excluded)

information content (DB/KB) also involved

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Glossary for common understanding and uniform interpretation:

Applications:

any kind of remote (?) access to any resource(s)
(reason and goal of the access is irrelevant)

Users:

any entitled organisation or individual

- joining the user community
- requesting access to the resources
- performing application-oriented activities

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Glossary for common understanding and uniform interpretation:

Providers:

any organisation or idividual

- joining the provider community
- offering resources for user access
- providing support for adequate use

Service:

any operation the user is provided with by the eInfrastructure (wrt. the intended application)

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Glossary for common understanding and uniform interpretation:

Grid:

a special service

- configuration of resources for intended applications
- performing task on ”virtual private machines” (VPMs) integrating remote resources by VPNs

Organisation:

a structured and (self-)regulated framework of operation

(with well defined tasks, powers and responsibilities)

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The present situation:

Available:

- wide range of potential resources
- wide interest in accessing distributed remote resources
- wide range of potential applications, but just

- limited set of actual applications (prototype grids)
- limited set of involved resources
- limited set of operational principles, practices, and tools

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The present situation:

Missing (incomplete list):

- an exhaustive register of available resources and providers
- a record of potential users
- an approved qualification framework for the resources
- a common set of approved application rules (AUP)
- a collection of provisioning requirements
- a tested/accepted set of interoperable middleware tools
- a mutually agreeable/applicable accounting mechanism
- a widely accessible record of best practices
- an environment motivating the potential users

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Possibilities (wrt. joint European co-operation):

- define policies	(necessary)
- determine strategies	(desirable)
- select objectives	(adviseable)
- make plans	(welcome)
- derive tasks	(appreciable)
- execute plans/tasks	(applaudable)

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Basic goals:

- complementary improvement/enhancement of the resource base
- harmonious refinement of the co-operation/application rules
- gradual development/introduction of fair/agreed (motivating) accounting
- step by step collecting/recording of all the related information/knowledge
- international coordination of related national activities

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Elementary principles (to accept – or reject):

- subsidiarity and solidarity
  (in AUP and accounting)
- freedom and self-governance
  (in the developments)
- decentralised/distributed (bottom-up?) structure
  (in the organisation)
- no (or just limited) new organisation
  (if possible)
- self-regulation and exclusive ethics in the co-operation
- no fixed technologies/architectures
- long-range thinking

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Options:

- Organisation
  - Minimum: consultative forum
  - Medium: coordination facilities (federation)
  - Maximum: association + operative company
- Structure
  - 1-dimensional
  - 2+-dimensional
    - (general grid – supercomputing grid ?)
    - (regional grids – disciplinary grids ?)
- Responsibility: provision of (1) information, (2) tools, (3) services
- Power: approval/rejection of (1) rules, (2) resources, (3) users

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Options (cont'd):

Tasks:

- Collecting ideas
- Set policy, strategy, goals, plans, tasks
- Co-ordinate activities
- Collect/disseminate information
- Collect/disseminate tools
- Support users (in applications)
- Support resource owners (in development)

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Options (cont'd):

Reporting: to
(1) membership, (2) EU, (3) public

Financing:
(1) no funds, (2) members' contrib., (3) EC, (4) income on services

Rules and regulations:
width of coverage
depth of duties/rights
way of compilation/approval

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Let us discuss -

let us be open, constructive, positive!

(Proposal is coming after the discussion …)