e-Infrastructures:
The New Scientific Communication Model from a Technological Perspective

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New scientific communication model

- Not only papers but also data
- Open access and sharing
- Cross-domain knowledge exploitation
Not only papers ....

- Sensor data, experimental data, statistical data have no meaning for the scientists if they are not processed.
Technological requirements (1)

- Scientists must have access to the necessary computing and storage resources and to the software environment required to support the complex data processing
Open Access & Sharing

- Self-archiving enables scientists and their organisations to publish research products and make them available to the scientific community.

- An organization can share the results produced by its scientists under certain policies (sharing does not mean “accessible to everyone, under no conditions and forever”).

Technological requirements (2)

- Organizations must have the necessary resources and the required technical skill to support self-archiving (storage, retrieval, access, curation and preservation) of complex and heterogeneous objects
- Mechanisms must be implemented to registry and to discover (be notified of) available archives and their access policies
- Sharing policies must be guaranteed
Cross-domain knowledge exploitation

- Publishing is done within a context (e.g. naming, metadata formats, ontologies, thesauri, language)
- Contextual information is needed to interpret the accessed knowledge
- Cross-domain knowledge full exploitation requires transparent access
- Scientists exploit resources produced by others only if the quality of them and of the related services is ensured
Technological requirements (3)

- The implementation of transparent access necessarily require access to contextual resources (e.g. ontologies, thesauri, gazetteers)
- Contextual resources must be shared, maintained, curated and preserved
- Quality of service (e.g. availability, scalability, performance) must be guaranteed
My contribution to future strategy, policy and research:

“The new scientific communication model will never be sustainable without the introduction of an appropriate technological and organizational solution”
(Open) European e-Infrastructure

Integrates shared resources and provides services for supporting the new research communication model

A step towards a European e-Infrastructure

- DRIVER—Digital Repository Infrastructure Vision for European Research

(www.driver-repository.eu)

51 institutional repositories publicly accessible through the first DRIVER public release (June 2007)

Another step towards a European e-Infrastructure

• DILIGENT—A DIgital Library Infrastructure on Grid ENabled Technology

www.diligentproject.org

Supports publishing of multimedia material, environmental data and complex products

Exploits the computing and storage resources of EGEE

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Thank you