Diligent

A **DI**gital **L**ibrary **I**nfrastructure
on **G**rid **EN**abled **T**echnology

Objectives & Current Status

Donatella Castelli
ISTI-CNR, Italy

Information Society Technologies

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General Information

- Duration: September 2004 - August 2007
- Effort: 1024 p/m
- Cost: 9.8 M Euro
- EC funding: 6.3 M Euro

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Participants

- Italian National Research Coucil – ISTI (Italy, Scientific Co-ordinator)
- European Research Consortium for Informatics and Mathematics (France, Administrative Co-ordinator)

- University of Athens (Greece)
- University of Basel (Switzerland)
- Fraunhofer-Gesellschaft zur Förderung der angewandten Forschung e.V. – IPSI (Germany)
- University for Health Informatics and Technology Tyrol (Austria)
- University of Strathclyde (United Kingdom)

- Engineering Ingegneria Informatica SpA (Italy)
- Fast Search & Transfer ASA (Norway)
- 4D SOFT Software Development Ltd. (Hungary)

- European Organization for Nuclear Research (Switzerland)

- European Space Agency – ESRIN (Italy)
- Scuola Normale Superiore (Italy)
- RAI Radio Televisione Italiana (Italy)

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DILIGENT objective

Develop a Digital Library Test-bed Infrastructure that will allow members of dynamic virtual research organizations to create on-demand transient digital libraries based on shared computing, storage, multimedia, multi-type content and application resources

Digital libraries are not ends in themselves; rather they are enabling technologies for digital asset management, electronic commerce, electronic publishing, teaching and learning, and other activities.

Fourth DELOS Workshop, Budapest, 2002

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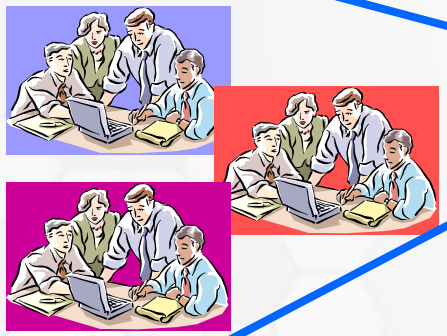
DILIGENT DL infrastructure

Consumers



Service A

Service B

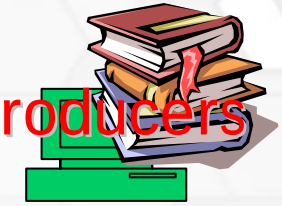
Service C

DLCreation service

Service D

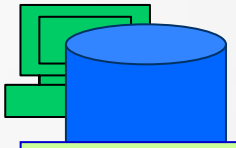
Service E

Producers

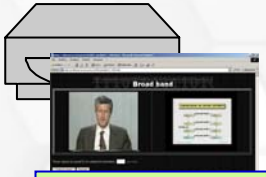


3D processing

simulation



Feature extraction



Speech recognition

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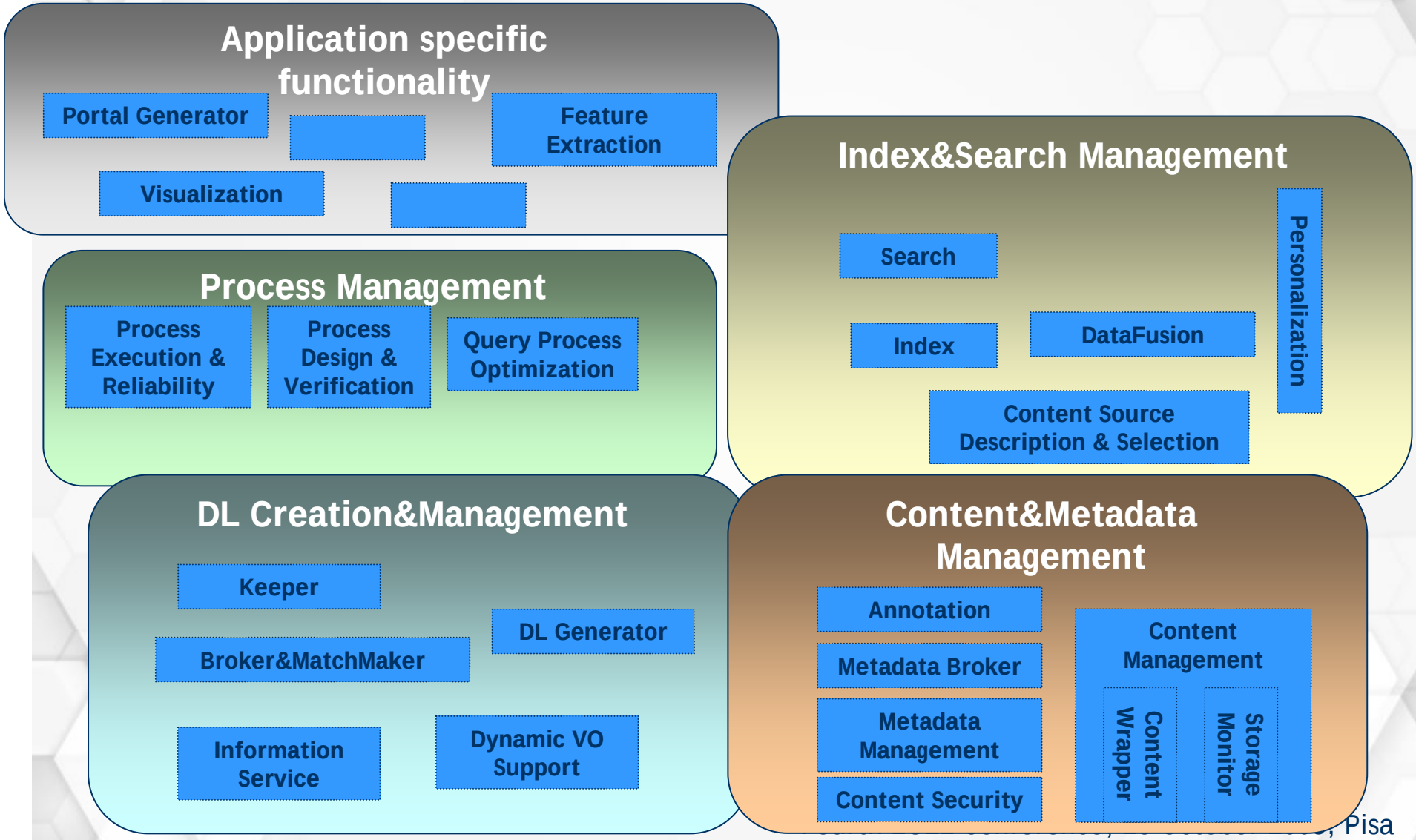
Diligent functionality decomposition



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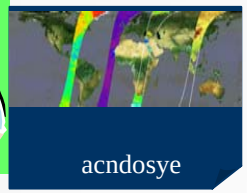
The DILIGENT context



Implementation of Environmental Conventions

Research on Culture Heritage

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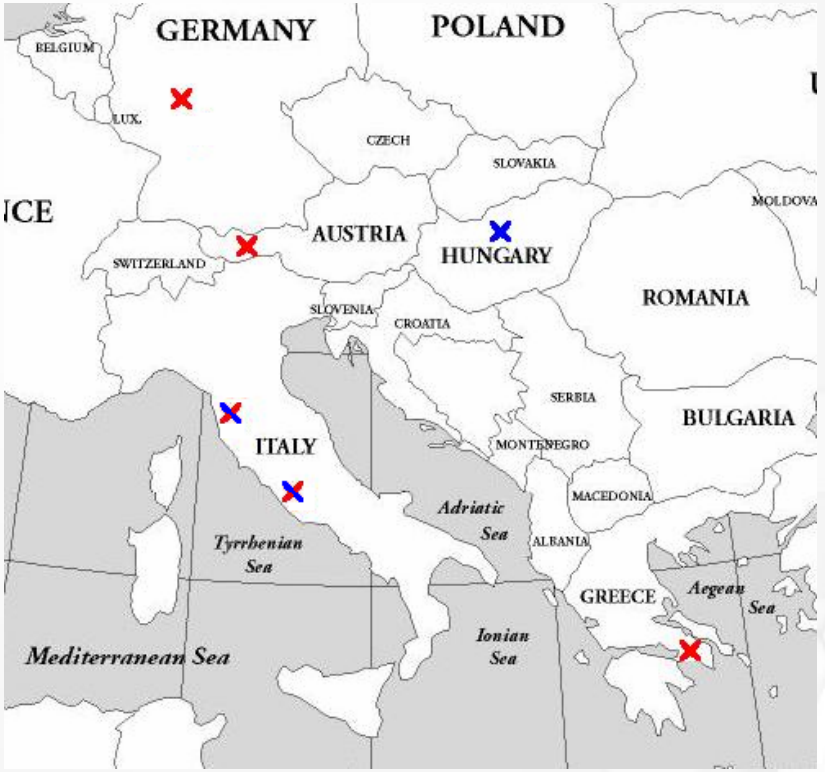
gLite Experimentation

1. To build a DILIGENT gLite Infrastructure

- Athens
- Budapest
- Darmstadt
- Pisa
- Innsbruck
- Rome



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gLite Experimentation [cont]

2. To use the DILIGENT gLite infrastructure in order to familiarise with it

- Tests plan
  - Data Upload
  - Job Submission
  - Data transfer
- Data

  800K XML files of the Reuters corpus (from Aug96 to Aug97)
- Application

  Feature extraction tool

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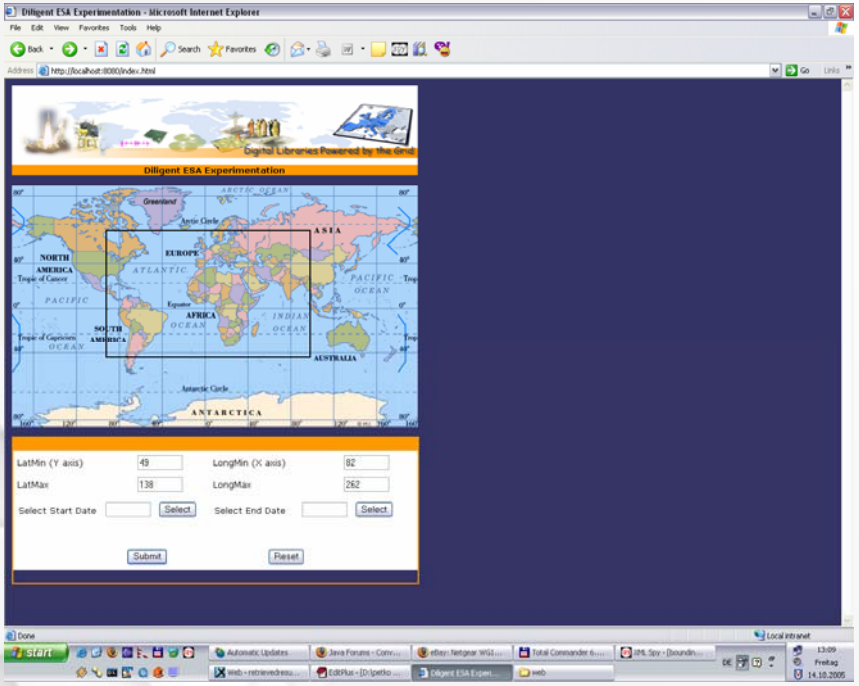
User applications experimentation

- To prototype user applications in order to better understand what functionality is required to the underlying layers



Generation, storage, access and dissemination of “live environmental reports”

- a fixed text
- a pollution map
- a table summarizing data from millions of observed satellite measures
- a graph reporting an analytical trend of certain information extracted from a great amount of observed data

International Report on
Mediterranean Sea Chlorophyll Distribution during year 2003

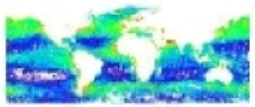
1. Scientific and Societal Concerns

Any scheme to monitor the ocean biota and their environment must strive to address the major scientific and societal concerns of the day pertaining to marine life. This section summarises some major concerns that emerged during discussions at the meeting. Many other concerns could have been included, but space precludes a complete listing of concerns.

1.1. Biodiversity and Conservation

Marine biodiversity is not easy to assess and is generally poorly known. There are many complicating factors, including a three-dimensional, fluid, mobile environment, its vastness, and its challenging depths. Away from shore, primary producers and primary grazers are usually small, drifting forms that undergo spatial variability and seasonal changes.

The larger invertebrate grazers have a range of life history stages, often with planktonic and benthic phases. Many large animals are migratory. Ocean habitats can be linked by the dispersal of planktonic larvae, and in this way, the systems can be interconnected even at a distance.

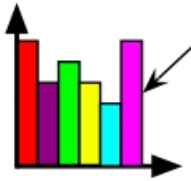


Jan – Apr 2003

Finally, the higher-order diversity of life is much greater in the oceans than in terrestrial systems—there are 13 unique phyla in the oceans and only one on land. Marine biodiversity is essentially the evolutionary history of life. In general, long-term environmental stability seems to increase biodiversity and, conversely, global climate change can be expected to decrease it.

	X1	X2	X3	X4	X5	X6	X7	X8	X9
Y1	12	13	15	26	11	34	45	45	54
Y2	32	12	46	67	21	22	44	12	44
Y3	23	33	56	77	32	44	12	55	33
Y4	44	34	12	55	34	45	12	22	44

Measures of yyy



Values of xxx

Automatically updated with the most recent data

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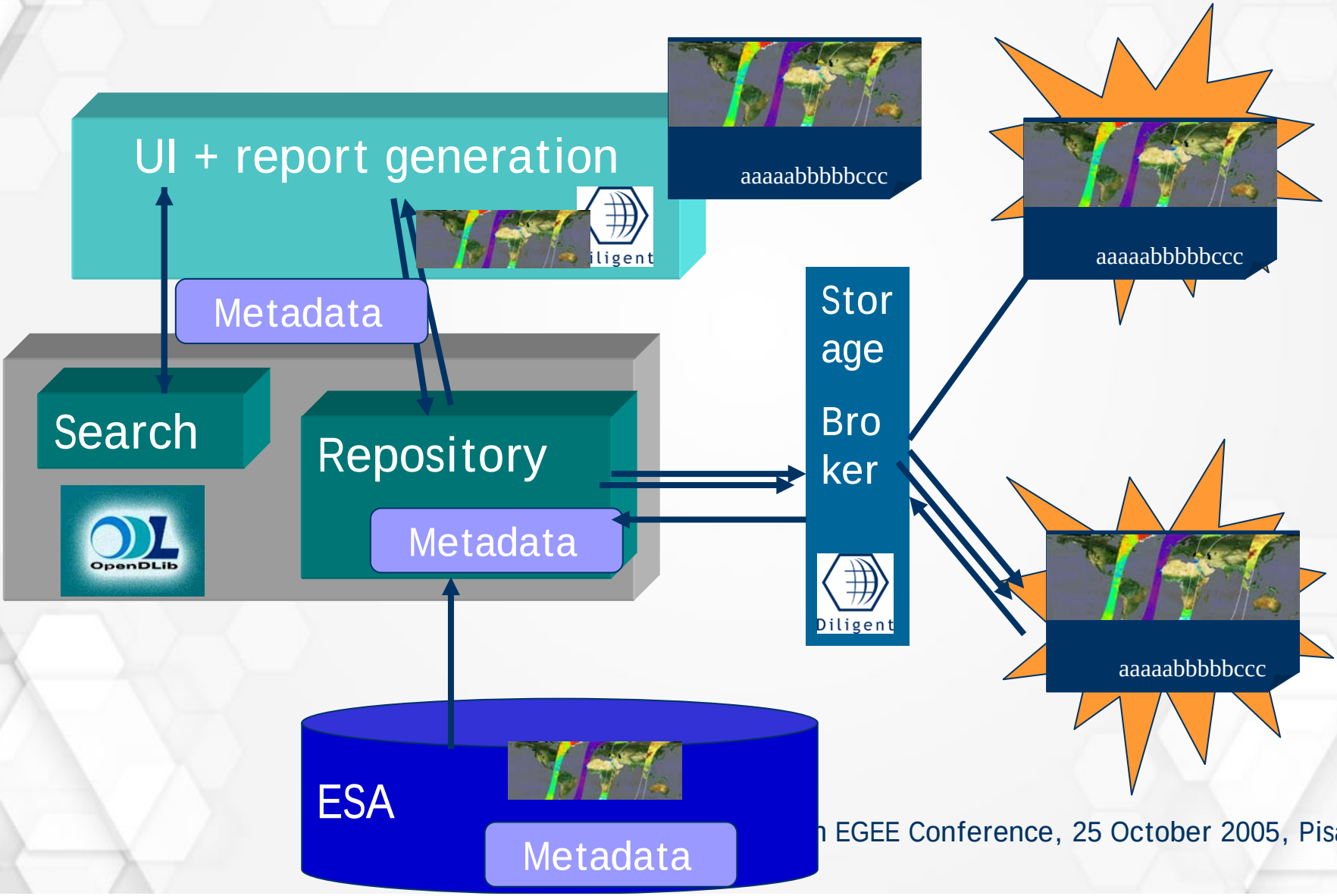
Reports generation and storage



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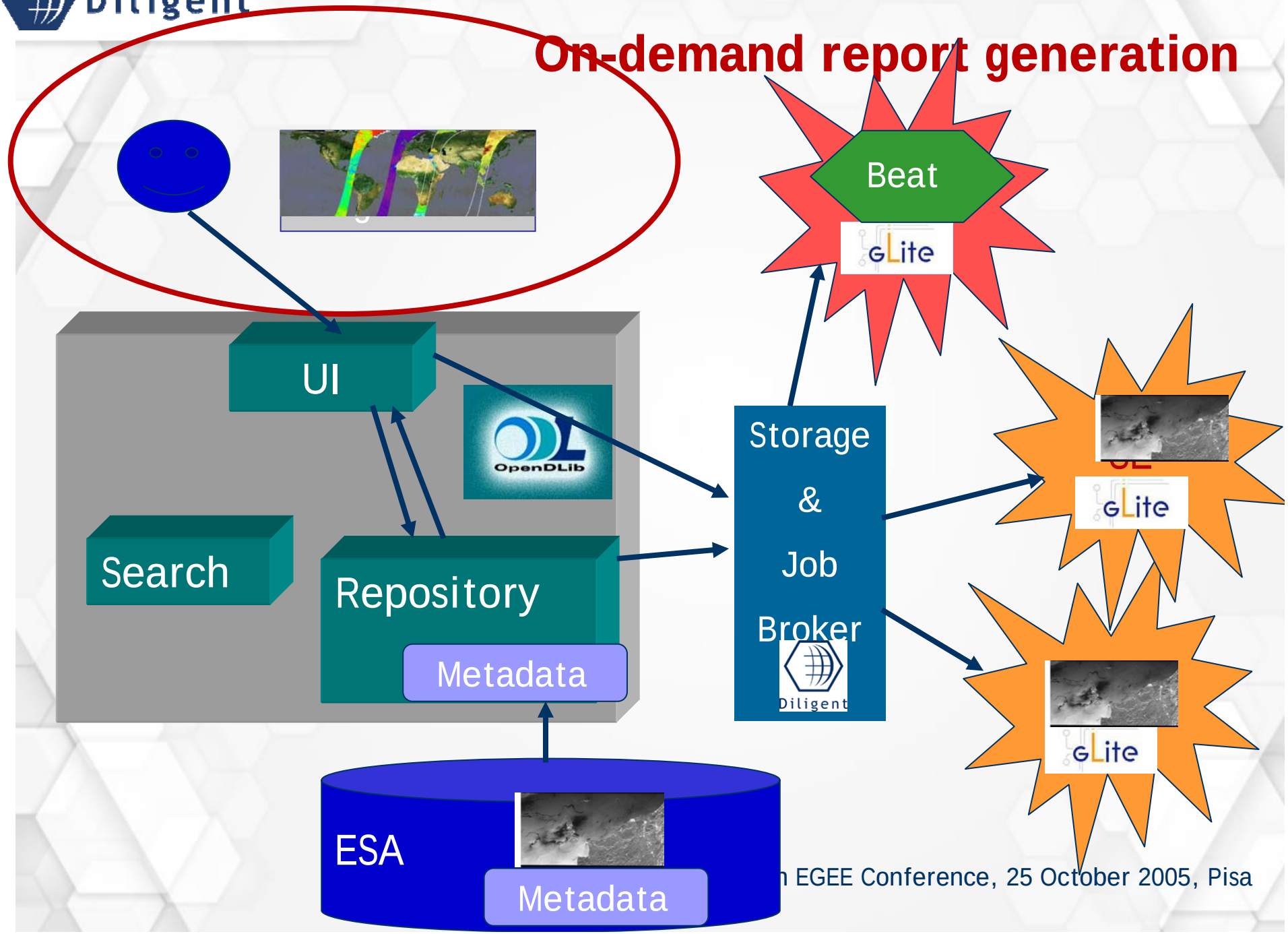
On-demand report generation



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Other on-going experimentations

- Workflow management
- Image feature extraction
- gLite Security mechanisms
- WSRF
- Access to archives and applications located on other Grid infratructures (ESA LCG 2.4)
- ...

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Plan for the future: New experimental scenario

Implementation of Environmental Conventions

Research on Culture Heritage

Video content unsupervised classification for automatic newscasts documentation

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New experimental scenario [cont]

- Proposed by the PrestoSpace IP Project http://www.prestospace.org/
- Aimed to support the execution of a pilot experimental system capable of performing a wide range of video content analysis tasks
  - e.g. identifying interesting clusters of video frames to be classified as either news anchorperson segments or footage segments in newscast programmes
- DILIGENT will provide the underlying infrastructure functionality
  - e.g. parallelisation and workflow management

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DILIGENT Training Digital Library

- Searchable collections:
  - Public documentation produced by DILIGENT, EGEE, Condor, Globus
  - Documents by GGF, OASIS, W3C
  - Technical documentation for designers and developers

- Accessible at: http://diligent-traning.isti.cnr.it
- Searchable from: http://www.diligentproject.org

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A Digital Library Infrastructure
TRAINING

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Contacts

www.diligentproject.org

- Donatella Castelli (CNR-ISTI, scientific co-ordinator)
  donatella.castelli@isti.cnr.it

- Jessica Michael (ERCIM, administrative co-ordinator)
  jessica.michel@ercim.org

At the conference:

- Pedro Andrade, Florida Estrella (CERN)
- Veronica Guidetti (ESA)
- Paolo Fabriani, Paolo Roccetti, Andrea Manieri (Engineering)
- Pasquale Pagano, Manuele Simi, Leonardo Candela, Henri Avancini, Davide Bernardini, Andrea Manzi (ISTI-CNR)
- Soren Balko (UMIT)
- George Kalaletris (UoA)