



# Diligent

## A **D**igital **L**ibrary Infrastructure on **G**rid **E**Nabled **T**echnology

Deliverable No D4.2.3:

“Dissemination & Liaison Activities Report”

August 2005

## Document Information

### Project

Project Title:	DILIGENT, A <b>DI</b> gital <b>L</b> ibrary <b>I</b> nfrastructure on <b>G</b> rid <b>EN</b> abled <b>T</b> echnology
Project Start:	1 Sep 2004
Call/Instrument:	FP6-2003-IST-2/IP
Contract Number:	004260

### Document

Deliverable number:	D4.2.3
Deliverable title:	Dissemination & Liaison Activities Report
Contractual Date of Delivery:	Month 12
Actual Date of Delivery:	10 October 2005
Editor(s):	George Kakalettris (UoA)
Author(s):	Yannis Ioannidis (UoA), George Kakalettris (UoA), Alex Delis (UoA), Konstantinos Tsakalozos(UoA), Donatela Castelli (CNR-ISTI), Catherine Bosio (CNR-ISTI), Jessica Michel (ERCIM), Andrea Manieri (ENG), Veronica Guidetti (ESA), Fabio Crestani (USG)
Participant(s):	UoA, CNR-ISTI, ERCIM, ENG
Reviewer(s):	Adelheit Stein (FhG-IPSI)
Workpackage:	4.2
Workpackage title:	Dissemination
Workpackage leader:	University of Athens
Workpackage participants:	UoA, CNR-ISTI, ERCIM, ENG, USG, ESA
Est. Person-months:	0,5
Distribution:	Public
Nature:	Report
Version/Revision:	1.1
Draft/Final	Final
Total number of pages: (including cover)	34
File name:	D4.2.3.doc/.pdf
Key words:	<i>Dissemination Report; Dissemination; Liaison</i>

## Disclaimer

This document contains description of the DILIGENT project findings, work and products. Certain parts of it might be under partner Intellectual Property Right (IPR) rules so, prior to using its content please contact the consortium head for approval.

In case you believe that this document harms in any way IPR held by you as a person or as a representative of an entity, please do notify us immediately.

The authors of this document have taken any available measure in order for its content to be accurate, consistent and lawful. However, neither the project consortium as a whole nor the individual partners that implicitly or explicitly participated in the creation and publication of this document hold any sort of responsibility that might occur as a result of using its content.

This publication has been produced with the assistance of the European Union. The contents of this publication are the sole responsibility of DILIGENT consortium and can in no way be taken to reflect the views of the European Union.

The European Union is established in accordance with the Treaty on European Union (Maastricht). There are currently 25 Member States of the Union. It is based on the European Communities and the member states cooperation in the fields of Common Foreign and Security Policy and Justice and Home Affairs. The five main institutions of the European Union are the European Parliament, the Council of Ministers, the European Commission, the Court of Justice and the Court of Auditors. (<http://europa.eu.int/>)



**DILIGENT is a project partially funded by the European Union**

## Table of Contents

Document Information .....	2
Disclaimer.....	3
Table of Contents.....	4
Figures .....	6
Summary.....	7
Executive Summary.....	8
1.1 Outline.....	8
1.2 Sources of Information.....	8
Workpackage 4.2 " Dissemination" .....	9
2 Roadmap .....	11
2.1 Objectives .....	11
2.2 Strategy & Planning .....	12
2.3 Management Tools and Committees.....	12
3 Progress of Work.....	14
3.1 September- October 2004 .....	14
3.1.1 Objectives .....	14
3.1.2 Activities.....	14
3.1.3 Achievements .....	15
3.1.4 Events .....	15
3.2 November - December 2004.....	15
3.2.1 Objectives .....	15
3.2.2 Activities.....	15
3.2.3 Achievements .....	17
3.2.4 Events .....	17
3.3 January - February 2005 .....	18
3.3.1 Objectives .....	18
3.3.2 Activities.....	18
3.3.3 Achievements .....	19
3.3.4 Events .....	19
3.4 March - April 2005 .....	20
3.4.1 Objectives .....	20
3.4.2 Activities.....	20
3.4.3 Achievements .....	21
3.4.4 Events .....	21
3.5 May – June 2005 .....	22
3.5.1 Objectives .....	22
3.5.2 Activities.....	22
3.5.3 Achievements .....	22
3.5.4 Events .....	22
3.6 July – August 2005 .....	23
3.6.1 Objectives .....	23

3.6.2	Activities.....	23
3.6.3	Achievements .....	24
3.6.4	Events .....	24
4	Dissemination Products.....	25
4.1	Material.....	25
4.1.1	Logo.....	25
4.1.2	DILIGENT Dissemination material.....	25
4.1.3	Presentation Template.....	30
4.1.4	Deliverable Template.....	30
4.2	eTools.....	31
4.2.1	Web site .....	31
4.2.2	Mailing List and E-Newsletter .....	31
4.2.3	RSS News Feed .....	31
5	Conclusions.....	33
	References .....	34

## Figures

<i>Figure 1: DILIGENT Logo (Horizontal &amp; Vertical Orientation)</i>	25
<i>Figure 2: DILIGENT 3-fold flyer (front and back page)</i>	26
<i>Figure 3: DILIGENT 3-fold flyer (internal pages)</i>	27
<i>Figure 4: DILIGENT brochure</i>	27
<i>Figure 5: DILIGENT half text poster</i>	28
<i>Figure 6: DILIGENT full text poster</i>	29
<i>Figure 7: DILIGENT Official Presentation Template</i>	30
<i>Figure 8: DILIGENT Official Deliverable Samples</i>	30

## Summary

This document contains a full report on the DILIGENT project's dissemination activities performed during the first 12-month period of the project. It provides brief background information on the concepts that guide dissemination in DILIGENT and introduces both the activities performed during this period and the material and instruments produced.

## Executive Summary

The DILIGENT project Dissemination Report, presents the Dissemination and Liaison Activities during the initial 12 months of the project.

DILIGENT's dissemination plan acts in a quite aggressive policy, covering almost each and every potential opportunity that might rise during the projects lifetime. It makes use of traditional instruments and modern e-Tools and covers from the simplest one-way dissemination up to close bidirectional collaborations. Additionally, DILIGENT has to cope with the special relationship of producer-consumer that rises from the provisioning of software platforms.

Due to this wide scope of operations, a very large number of tasks have been carried out during this 12-month period, most of them relating to:

- Project's web-site establishment and maintenance
- Production of dissemination material
- Presentation of project to interested parties
- Participation to events that promote collaboration among projects
- Initiation of contact with other projects, relevant task forces, and communities
- Delivery of press releases and interviews
- Contributions to publications.

The results of the dissemination activities are totally satisfactory with respect to their outcome. Yet the bottom line of the evaluation is that all steps have to be taken in a realistic, cost-effective manner since resources are constrained by the project's definition.

### 1.1 Outline

This document contains the Dissemination report of the DILIGENT project. The remainder of the document is organized as follows:

- The rest of this section presents a brief reasoning for information sources and the background of the effort that is related to its content.
- Section 2 (Roadmap) defines the objectives set during the last 12 months and delivers an overview of the strategy and plan behind the Dissemination activities.
- Section 3 (Progress of Work) describes the actual activities that took place in order to implement the objectives that are reported in the former chapter. The achievements and relevant events are also presented in this section in a chronological order, structured in 2-months-periods.
- Section 4 (Dissemination Products) includes the material produced aiming to support Dissemination activities.
- Finally, section 5 (Conclusions) briefly recapitulates the issues and opportunities addressed in this document and highlights the next steps to be taken.

### 1.2 Sources of Information

Apart from the Conclusions section, all of the content presented in this document is collated from previous DILIGENT documents into an integrated report. The reason is that this report is a recapitulation of the activities performed during the last period, which have already been covered in two different types of documents that form part of the typical project's obligations. These are the D4.2.2 on planning of the Dissemination and Liaison activities and the bi-monthly Interim Management Reports, which contain all the activities related to Dissemination and Liaison.

### 1.3 Workpackage 4.2 “Dissemination”

Dissemination activities are covered mostly as part of WP4.2 yet their nature is such that each DILIGENT partner participates in these activities either implicitly or explicitly, an issue that can be easily identified by examining the events report. Prior to presenting the actual activities performed we will introduce the work plan of WP4.2.

The main objectives of this dissemination workpackage are to organise and carry out the dissemination of the knowledge produced by both research and development work done throughout the duration of the DILIGENT project, and manage bidirectional “links” with related work in order for the project to increase its impact in the related areas of the digital library and grid communities.

The activities of this WP constitute the interface of the entire project to the outside world and must ensure an “intense” and “trustworthy” presence of DILIGENT, in order to obtain the capability to influence the beyond-state-of-the-art trends.

To achieve these objectives, some actions have already been taken and many more will be initiated throughout the duration of the project. The dissemination WP has been defined around three tasks:

- Task 4.2.1, DILIGENT Project Website, covering the design, development and hosting of the project’s official web site. This site is the main public point of reference for the DILIGENT project;
- Task 4.2.2, Dissemination Activities, including various activities past and present to disseminate project results;
- Task 4.2.3, Liaison with Other Initiatives, whose main objective is the identification and management of various forms of cooperation with other projects, communities and organisations.

The activities identified within the tasks are defined with potential users or target groups in mind for dissemination. The dissemination plan arises when the tasks are defined as a function of the target groups.

Dissemination will be an ongoing activity for the full duration of the DILIGENT project. All partners are involved in all aspects of dissemination, by: regularly updating content on the DILIGENT project website, disseminating their progress and results within the context of this plan, and actively liaising with other projects and communities to promote DILIGENT objectives. Partner participation will enhance the project’s visibility in both the digital library and grid communities, but also within other domains such as cultural heritage and the environmental sector via the user communities.

The dissemination of project findings and results via all available means and the tight collaboration with relevant working groups and taskforces will lead to the optimisation of resource usage both for DILIGENT and the “others”, i.e. the involved external parties.

Project partners involved in WP4.2 are:

- UoA (4 pms – WP Leader): Dissemination, Liaison activities, Web site
- ERCIM (5 pms): Web site, Liaison activities
- CNR-ISTI (5 pms): Dissemination, Liaison activities, Web site
- USG (2 pms): Dissemination, Liaison activities
- ENG (2 pms): Dissemination, Liaison activities
- ESA (1 pms): Dissemination, Liaison activities

The WP4.2 runs full project duration, and during the first 18 months it has the following deliverables (18 Months)

- Web site (M2):
- Dissemination plan (M6)

- Report on activities (M12)

Dissemination activities heavily depend on the progress of work carried out in other workpackages than WP4.2, such as:

- Official WP deliverables
- Intermediate WP results produced
- Issues being resolved.

Ambitious dissemination activities introduce significant administrative overheads and financing issues, which raises the need for close partner collaboration in order to be efficiently managed.

Additionally, dissemination activities such as publications and presentations of work in a large complex environment such as DILIGENT need close coordination and careful handling.

## 2 ROADMAP

### 2.1 Objectives

DILIGENT dissemination objectives, as they have already been presented in the Description of Work document (Annex I) and the D4.3.2 on Dissemination and Liaison Activities Planning, aim to achieve a number of targets under the overall prism of promoting European and Universal status in the scientific and application areas addressed by the project.

These objectives are being briefly presented below:

- Widen the scope of application by facing new challenges through the collection of more requirements and wishes from interested user parties.
- Create a wide community that adopts DILIGENT products that will promote sustained development of the DILIGENT platform.
- Validate the products of the project and obtain feedback by expert groups, scientists and interested user communities.
- Maximize reuse of knowledge and technology at Project, European or even worldwide level by showing and exporting products of DILIGENT and importing state-of-the-art findings of other communities.
- Promote emerging or even launch new standards through synergies with appropriate task forces.

DILIGENT's dissemination strategy introduces the need for a wide spectrum of activities, which can be grouped in two major groups:

- Pure dissemination activities
- Liaison Activities.

Pure dissemination activities include publicity activities and scientific announcements. Their main objective is to get the project and its results known to all potentially interested communities and relevant task forces, in the fields of Digital Libraries (DL), Information Retrieval (IR) and Grid Computing. Although pure dissemination activities offer a mainly one-way flow of information, feedback is expected both implicitly (e.g. by acceptance) and explicitly (by interested parties).

Liaison activities have a main objective of creating collaboration links with other projects, task forces or user groups so that resources are best utilized under a global perspective. Liaison activities include commonly organized activities as well as exchange of technology and knowledge among collaborating parties.

Liaison activities are primarily focusing on the establishment of bidirectional links with other communities and go beyond the scope of typical dissemination activities and aim at:

- Feeding of relevant taskforces with issues to be resolved, by exporting these scientific issues whenever met,
- Focusing the project's effort on project core objectives.

These will ease the following:

- Focused, quick dissemination of DILIGENT findings to most interested task forces,
- Promotion of standardization on DILIGENT issues,
- Promotion of exploitation of project results, referring both to tools produced by the project workgroups and knowledge obtained through the whole process of design production,

- Receiving very detailed in-depth evaluation feedback on project's results quality and applicability.

A final side effect of liaison activities, which is quite important for the project economy, is the expected minimization costs of dissemination activities coupled with a maximization of benefit, i.e. target group penetration, though the common organization of events.

## 2.2 Strategy & Planning

In order to achieve the desired results in both collaboration and publicity, DILIGENT has to carry out a series of actions to ensure that all of the above mentioned activities will be performed effectively and in a way that the project's reputation and effort will not be risked at any point.

In order to achieve that, the objectives are refined and they are being accompanied by a concrete roadmap that leads to their fulfilment. Additionally, rules have been settled and officially presented as part of D4.2.2 so as to safeguard important concepts such as quality, IPR, etc.

The DILIGENT Dissemination plan consists of a number of steps, which are being defined at this early stage and will be maintained and refined throughout the whole duration of the project:

1. Identification of opportunities and target groups for dissemination and liaison activities
2. Definition of instruments & media to be exploited for these activities
3. Establishment of rules that will assure the quality and legal-ethical conformity of the activities
4. Production of the material to be used for these activities
5. Management of activities
6. Monitoring of activities organized or performed by externally task forces, in conjunction with progress of work, state-of-the-art-and-beyond trends
7. Adaptation to the "evolving environment" by exploiting new opportunities and, if appropriate, refining the objectives
8. Evaluation of the progress of dissemination activities.

The first version of this has been thoroughly presented in **D4.2.3** and **we redirect the reader to the specific document for further reading**. However, all of these initial guidelines and rules are subject to continuous revisions and refinements. Additionally, there are many classes of activities or opportunities that will be handled on a per-case basis, by the appropriate instruments of the project (committees, teams, etc.)

## 2.3 Management Tools and Committees

The nature of dissemination activities is such that each and every partner that participates in the project contributes to the objectives of dissemination group of activities. Additionally, a smaller group of partners support the activities by:

- Producing material to be consumed by other partners
- Managing the tools to support dissemination activities
- Supporting activities by managing and maintaining relevant electronic tools
- Coordinating and managing the relevant activities
- Managing internal dissemination issues
- Organizing events.

The electronic tools to assist these activities are mostly the following ones:

- Project's web site, which is hosted around a Content Management capable Portal Engine
- Shared workspace, build on the BSCW system which apart from allowing users to share digital material, provides a set of tools for collaboration
- Mailing lists, which alert partners about upcoming events, activities and deadlines
- Shared Calendar, which keeps track of activities performed and upcoming events
- Bi-monthly reports, which enumerate a complete list of dissemination activities performed by all partners in a formal manner.

## 3 PROGRESS OF WORK

In the following section the progress of the Dissemination and Liaison activities is presented in chronological order, grouped into 2-months periods. Each period is introduced by its *objectives*, followed by a short description of *activities* and the work accomplished (*achievements*). Finally, we list relevant *events* in which project members actively participated in order to promote DILIGENT's dissemination and liaison goals.

### 3.1 September- October 2004

#### 3.1.1 Objectives

During the first period of the project, the Dissemination activities mostly focused on planning of the next steps and producing the fundamental tools to support dissemination, apparently, considering that these would be reconsidered as the project and its environment evolve.

The main objectives of this period were:

- Design and build the web site of the project
- Build the collaboration and information distribution mechanisms of the project
- Establish the rules for dissemination and liaison activities
- Enumerate opportunities for synergies.

#### 3.1.2 Activities

During this period, work was mostly focused on setting the guidelines for further actions and building the e-tools to support coordination, dissemination and collaboration at both intra and extra project scope.

The guidelines for publications concerning targeted media, authorship, quality of material, etc., have been considered. By the end of the first two-month period a draft document gathering the related information was presented to the consortium, in order to become the basis for future discussion.

Regarding the e-tools, a shared workspace has been activated and maintained, which allows easy exchange of documents and other kinds of information. A number of thematic mailing-lists have been established and memberships have been fixed for the partners. All of the above are fully active since the end of the 1<sup>st</sup> project-month (M1).

The project's web site has been designed in order cover present and future needs of dissemination and demonstration activities, on top of an Open Source Content Management System (CMS) allowing extended flexibility and functionality. The initial version of the web site was delivered to the public and consortium members by the end of month two (M2). Initial content was placed on the web site, and authorized partners where allowed to add content.

Apart from this, opportunities for dissemination were evaluated, and although the project was still at the very beginning of its technical activities, project members carried out presentations that were taylored to the relevant events.

During this initial period two major collaborative dissemination-related activities where performed within the project boundary:

- The Kick-off Meeting in Piza, to settle the direction of dissemination activities.
- The action to motivate all partners to provide their contribution concerning the dissemination and liaison activities.

### 3.1.3 Achievements

The main achievements of this period were:

- Design and construction of the project's web site
- Setup of mailing lists for intra-project coordination, collaboration and dissemination of findings
- Setup of shared workspace for intra-project collaboration and dissemination of findings
- Design of Posters for the FP6 IST Concertation Meeting and other related events
- Design of Flyers for the FP6 IST Concertation Meeting and other related events
- Creation of a research Infrastructures 2004 Brochure, in electronic and digital form.

### 3.1.4 Events

Despite the quite early time of this period with respect to the project's age, DILIGENT consortium members presented the project at various opportunities, which was mostly due to the significant amount of work done on dissemination and liaison even before the project's start.

- DELOS Workshop on Evaluation of Digital Libraries, 4-5 October 2004, Padua – Italy (presentation by D. Castelli)
- DILIGENT: A Digital Library Infrastructure on Grid ENabled Technology, (D. Castelli, ERCIM News no 59, October 2004).

## 3.2 November - December 2004

### 3.2.1 Objectives

During this period the objectives were settled around maintenance of initial achievements, further discussion and expansion of the opportunities, with respect to dissemination/collaboration, which would lead to a detailed plan to rule the activities of this cluster.

The following items enumerate the various aspects of these objectives:

- Maintain and evolve project's web site
- Maintain the project's collaboration and dissemination tools (mailing lists)
- Improve generic dissemination material
- Expand synergies with relevant task forces
- Provide presentations & participate important events
- Plan dissemination activities.

### 3.2.2 Activities

During this period, a significant portion of the activities of the work-package focused on refinements of previous work and products of the project.

The first deliverable of DILIGENT, the project's web site, had already been implemented within the first period (Sep-Oct 2004). Due to the strategic decision taken to use an open powerful portal and content management engine to host and publish the web site there is obvious continuous need for maintenance. Maintenance refers to various tasks, all of which have been active during the initial release of the tools and will run throughout the whole project's lifetime. In addition to that, as content fills-in the site and users get experienced on its use, they submit comments for visual, structural and functional improvements, which is also a continuous procedure.

So during this period the following activities have been performed on the DILIGENT web site:

- **Site Structure and Content:** Existing site content was improved and new documents were added. Currently it is mostly that partners contribute content mainly on the "static" parts of the web site. Since the project had (and still has) no mature scientific findings to present, nor any actual software products to spread around, it was too early to expect such content to appear on the site. Topics such as legal issues and the project's presentation were the best worked out sections in the site, but ongoing work was continuously improving the whole experience with the portal. Users proposed minor structural changes with respect to site map, however major visual improvements were performed to make the site more attractive to the visitor.
- **Site Functionality:** Experience with site maintenance and functionality showed the need for utilisation of new ones or replacement of some of the initially selected. Internal links to content, glossary management, advanced mailing forms were some of the new components which were located in the open-source and were installed and activated on the DILIGENT web site.
- **Administration & Maintenance:** users and authorisation levels have been constantly maintained, while site content and structure have been backed up and checked at a periodic fashion.

Apart from the above, maintenance is being performed on the project's collaboration space, which is hosted by CNR based on the BSCW platform.

Although the site was an important area of work, significant improvements were made on dissemination material produced during the first two months of the project. The partners supplied valuable feedback, and new versions of the initial dissemination products were produced, which were fully compatible with EU directives and the partners' expectations. So at this point, there were already a significant number of internal project products at the partners' disposal for producing hard-copy material to assist dissemination:

- **Flyer:** a two-sided three-fold presentation of the project consortium, objectives and scope (horizontal A4)
- **Brochure:** a typical presentation of the project on a two-sided A4 form, which can be easily included in any partners' presentations and documents, where the three-fold flyer cannot fit
- **Poster:** a large free-form poster of the site for use in presentations and events (typically to be printed on 70X100cm board)

The above-mentioned products were all provided for free to all project partners upon request, which is a policy that has been respected by all DILIGENT members. This greatly enhances the ability to keep all of the above products quite homogeneous and up to date.

Due to the participation of the project in the November 2004 IST Event in Hague, 1000 flyers were printed, so as to be handed out at the particular event. Approximately 300 flyers were distributed to event participants as informational material on DILIGENT. Another 250 flyers were distributed at aforementioned the eInfrastructure concertation meeting. The remaining flyers were shared between the consortium partners for individual use.

In addition to that, a very short project description was delivered to the EU for the creation of pre-designed standard poster to be presented on the same IST event.

The project's scientific findings and concerns were not yet mature enough to be regarded as very valuable dissemination material, so little was done on publishing such information, at this point. However, lots of efforts were made on making the project and its objectives publicly known via various means.

A specialised group from ENG consisting of members of the IT, the communication and the marketing teams of the company prepared a press release for the Italian newspapers that would be released on January 10<sup>th</sup>, 2005.

Apart from that, collaborative actions among external task forces and the project's technical workpackages were performed. The most important activity of the report period took place on the 19<sup>th</sup> and 20<sup>th</sup> of November 2004. A special meeting was organised in Rome with Prof Miron Linvy, University of Wisconsin, one of the major contributors to the Condor system. Although the initial scope of discussion was the Index & Search related services, various aspects of the DILIGENT platform were covered. Prof Linvy provided valuable information and suggestions, while partners presented the various issues to be faced by the DILIGENT platform. Finally, the opportunity of further collaboration between the two parties, i.e. the Condor work group and the DILIGENT consortium, was opened.

Informal liaison contacts were also established with the following organizations and projects:

- San Diego Supercomputer Center (SDSC), Univ. of California, San Diego (USA), Dr Reagan Moore, Associate Director Data-Intensive Computing
- McGill University, Montreal (Canada), Prof Emeritus Peter M. Daly
- PrestoSpace EU Integrated Project (<http://www.prestospace.org/index.en.html>), Dr Walter Allasia, Director of Multimedia and Innovation Technologies of euriX Group.

Finally, WP4.2 partners elaborated the initial steps of a pragmatic Dissemination Activities plan, which faces more demanding activities such as organising and hosting events, etc. However, the actual product of this work is to be presented as a deliverable in subsequent periods.

### 3.2.3 Achievements

Recapitulating, the following significant achievements were made in this period:

- Web site: effort on content addition, visual and functional improvements and maintenance. Due to the strategic decision of the hosting a dynamic web site on a portal / content management engine, lots of additional effort has been required.
- Dissemination material: Improvements on produced dissemination material (Flyer, Poster, Brochure)
- Dissemination activities: a number of presentations on the project and its objectives were given by partners
- Liaison activities: relevant taskforces have been unofficially contacted.

### 3.2.4 Events

During the same period, project consortium members actively participated a list of events where they performed presentations on the DILIGENT vision and attracted the attention of the Grid and DL related scientific community. These events were:

- "DILIGENT- Digital Libraries powered by the Grid", 1st Concertation Meeting on eInfrastructures (22th November 2004, The Hague, Belgium)
- "La tecnologia Grid per costruire biblioteche digitali di seconda generazione" (i.e. From e-science to e-industry with Grid Computing), Meeting 'Dall'e-science all'e-industry con il GRID computing', (7th December 2004, Genova-Italy)
- "Digital libraries: Exploiting Digitized Material in Research Activities", Convegno 'Con parola breve e con figura – Emblemi e imprese fra antico e moderno', (9-11 December 2004. Pisa – Italy)
- "The SeeGrid Workshop" (24<sup>th</sup> November 2004, in Den Hague)

- DILIGENT presentation on event carried out by the National Documentation Center of Greece, (21<sup>st</sup> December 2004, Athens - Greece)

### 3.3 January - February 2005

#### 3.3.1 Objectives

Apart from continuing work of previous periods, objectives of this period covered an early evaluation of activities and the establishment of a concrete Dissemination and Liaison plan. With respect to these the following tasks were to be accomplished:

- Continue performing dissemination activities on topics related to the DILIGENT project
- Extend liaison activities i.e. contact new projects and task-forces in order to build bridges for collaboration
- Provide new and improve existing dissemination material to be used by DILIGENT partners at events and documents
- Develop the policies and strategy of DILIGENT interfacing to the World
- Evaluate the progress of the Dissemination and Liaison activities.

#### 3.3.2 Activities

During this period a number of activities related to dissemination were performed. These can be categorised under two subjects:

- Publications on DILIGENT-related topics
- Presentations of the DILIGENT vision and findings to interested parties (see the "events" section).

With respect to liaison activities DILIGENT partners contacted a number of other projects for the establishment of collaboration links:

- Contacted Chronopolis project, funded by the National Science Foundation (Prof Regan Moore). This project is focused on the development of a preservation facility for scientific data. The project requires the integration of digital library technology to support discovery and browsing, data grid technology to manage technology evolution, and preservation environments for managing authenticity and integrity (activity performed by CNR)
- Contacted the SEEGrid and identified specific opportunities for collaboration, in the fields of reuse of technology and exploitation of one's another's projects' products (activity performed by UoA)

Additionally, we performed a joint activity with DELOS NoE, i.e. being supported by DELOS presented its scope and objectives to the 1st Italian Research Conference on DLMSes.

Effort has been placed towards providing new and improving existing dissemination material to be used by DILIGENT partners at events and documents, in the following manner:

- Worked on material to be used in upcoming events of special interest to the project
- Evaluated the possibility for an audio video presentation about DILIGENT. ENG with RAI Educational, planned a half-day meeting in Rome (first days of March) to verify the possibility of organising a media coverage of the DILIGENT event planned for October'05
- Prepared the poster of DILIGENT to be presented at "GRID & e-Collaboration for the Space Community" Workshop, ESA/ESRIN, Frascati, ROME, Italy.

One of the main focus areas was the development of policies and strategy of DILIGENT interfacing to the World:

- Evaluation of the various opportunities and requirements that rise for DILIGENT in a cross workpackage manner.
- Following that, identification of the need for a communication mechanism to approach observers and other task forces and institutions interested in collaborating with DILIGENT. Communication issues and community aggregation mechanism has been formed and proposed to the consortium. Official reference to this was included in the Deliverable D4.2.2. The major issue here was the lack of a clear understanding of the liabilities and roles regarding external communities.
- Produced the D4.2.2 Deliverable RC1 which contains the strategy which rules the DILIGENT dissemination and liaison activities

Additionally, a full evaluation of the progress of the Dissemination and Liaison activities as well as of the material already produced for supporting these activities, was performed. This led to a number of very significant results:

- Identified the need for artistic enrichment of e-media and evaluated various alternatives for the establishment of a collaboration that will assist towards this direction,
- Identified the need for new material to be used in thematically focused events and media,
- Identified the need for further motivation of partners for collaboration on the area of Dissemination and Liaison (e.g. Web site updates etc). Initial actions have been taken, more have been discussed in upcoming WP4.2 meeting of mid April, Athens.

During the same period it was decided that the new Communication and Aggregation Team will be the coordinator of the activities that deal with the involvement of external parties in DILIGENT, in either a passive or an active manner. This team has been unofficially formed prior to this period, however it has been reformed and has initiated activities within this period. Members of the team come from WP4.2 and WP4.3 partners, the two WPs, which either directly or indirectly deal with DILIGENT contacts to the outer world.

Finally, a major internal phone meeting was conducted by ERCIM in order to finalise the aspects of the Dissemination and Liaison Activities Plan.

### 3.3.3 Achievements

During the referenced period we managed to:

Enhanc dissemination material

- Maintain the project's web-site
- Present project to various interested parties
- Perform publication of the article "**Le Biblioteche Digitali sposano il Grid**" on "**Alpha Sole 24-Ore**" newspaper, 3rd February 2005
- Contact various projects for the materialisation of liaison activities plan
- Introduc new dissemination material
- Develop Dissemination Strategy introducing polices and actions to be applied to the various cases
- D4.2.2, Dissemination Plan Deliverable , version 1 was submitted for internal review, according to the DILIGENT project's quality assurance strategy.

### 3.3.4 Events

The main events that partners actively participated in on behalf of DILIGENT during this period were:

- Presentation of the DILIGENT project at EGEE project first review held at CERN on 9-11 February 2005 (CNR)
- Presentation of the DILIGENT project at 1st Italian Conference Research Conference on Digital Library Management Systems (sponsored by DELOS), Univ. of Padua (Italy), 28 January 2005 (CNR)
- Presentation of the DILIGENT project to the SEEGrid project partners, January 2005 (UoA)

### 3.4 March - April 2005

#### 3.4.1 Objectives

During this period, DILIGENT dissemination activities were guided by the general objectives of the project and more particularly by those settled by Workpackage 4.2:

- Maintain DILIGENT project's Web Site
- Dissemination of DILIGENT project's products and findings to the world
- Perform liaison activities with interested parties and relevant task forces.

#### 3.4.2 Activities

During this period a significant amount of effort was dedicated to the web site. This aimed into improving its look and feel as well as its functionality. Graphics and new styles were applied and new components were installed. Going a step beyond that, development effort was placed on existing components in order to fit them to the DILIGENT consortium requirements. This extra development dealt with the required extra functionality and the need to comply with the revised look of the site. A new section of the web site that contains the discussion support tools and the documents related to the DILIGENT experimentation with gLite was added.

A new policy with respect to news updates has been applied since this period, and currently all partners are being triggered to contribute to the site.

During this period content of the site was totally updated, especially the technical and the news sections, preparing for the EGEE conference visitors.

Finally, with respect to the site, a dictionary containing the terms most commonly used in describing the DILIGENT activities and their definition was prepared and made publicly available through the project Web site.

Towards the dissemination, a number of activities have been performed, the most important of them dealing with the EGEE Conference, yet producing assets for the rest of the activities. New dissemination material was produced in electronic and printed forms. This material includes leaflets containing technical and overview presentation of the project, business cards and various posters. Its first use was made at the Athens, April 2005, EGEE conference. Several partners (CNR, ENG, ERCIM) thoroughly reviewed the dissemination material produced for the conference and proposed the next steps for dissemination material production with focus to the upcoming events.

DILIGENT has been continuously present in the EGEE event in Athens, holding a stand at the entrance of the conference. Additionally, printed material was given to the event participants packaged with the conference material, while business cards and specialised information was given at the stand place.

Finally, with respect to dissemination, WP4.2 along with WP4.3 participants discussed and refined the Communication and Aggregation plan.

With respect to synergies with interested parties and relevant task forces, the project continued to identify opportunities for collaboration with other projects and initiatives. An

early observation was that the interest of the community is increasingly attracted by the DILIGENT project, yet production of technological output (i.e. software) is expected to have a tremendous impact on this part of the WP activities. Since that era, it is a concern of the consortium to proceed with care on the various opportunities that pop-up with every presentation of the project.

At this point, plans for exchanges of information were discussed, among the others, with Dr Stella Shen, Academia Sinica (Taiwan), Dr Johan Eksteen, CSIR (South Africa) and Prof Mike Freeston, Univ. of California-Santa Barbara (USA). Additionally, a very promising synergy with the SEEGrid project, aiming to cross-project exploitation of products was initiated.

Additionally DILIGENT became the subject of Lecture Notes in Computer Science 3379, (Berlin) Springer 2005, pp. 289-298 under the subject: "Understanding and Tailoring Your Scientific Information Environment: A Context-Oriented View on E-Science Support. In "From Integrated Publication and Information Systems to Virtual Information and Knowledge Environments."

Within the scope of collaboration with relevant projects, DILIGENT performed a joint training event with the DELOS NoE on the subject of Digital Libraries and the Grid.

Finally two large-scale internal meetings have been held:

- Communication and Aggregation team phone meeting hosted by ERCIM
- Cross WP full day meeting on Dissemination and exploitation hosted by UoA.

### 3.4.3 Achievements

During this period we have:

- Improved existing and introduced new focused dissemination material presenting the technical foundations of the project,
- Participated to the EGEE Conference as a sponsor,
- Organised joint training event with the DELOS NoE,
- Prepared and published a dictionary containing the terms most commonly used in describing the DILIGENT activities and their definition, through the project Web site.
- Settled new policies on e-Dissemination instruments,
- Revised the Web-Site functionality and structure and improved the artistic feeling of the site,
- Refined the Communication and Aggregation plan,
- Presented the project to interested parties and task forces.

### 3.4.4 Events

The following events are the most important once with regards to DILIGENT dissemination:

- Donatella Castelli gave an audio interview on DILIGENT to Radio Svizzera, Rete 2, Lugano on 6th April 2005.
- Donatella Castelli presented the DILIGENT project at the 3rd EGEE Conference, Athens, 18-22 April 2005.
- Yannis Ioannidis presented the Diligent Project to the "Greek Research and Technology Network" (EDET/GrNet), Athens, April 2005.
- The DILIGENT project participated in the EGEE Conference as a sponsor, 18-22 April 2004.
- Performed joint training event with the DELOS NoE on the subject of Digital Libraries and the Grid.

## 3.5 May – June 2005

### 3.5.1 Objectives

During this period, DILIGENT dissemination activities were guided by same three general objectives of the project / Workpackage 4.2, with respect to maintenance of tools / instruments, performance of dissemination activities and quest for synergies and opportunities for collaboration.

### 3.5.2 Activities

At this point, the project's web site was already quite well formed and no further effort was placed for visual improvement. Yet content was added as soon as it was made available. A mechanism for news updates was established and partners were notified for the provision of contribution to the project's web site. Finally the site was updated with newly produced material and news.

Towards supporting and performing dissemination activities to make DILIGENT widely known and deliver its findings to interested parties, project members participated in various events and in most cases have delivered presentations on DILIGENT. Material presented in these events was based on templates and content provided by the WP4.2 while derived content was distributed to the consortium as an asset. Additionally, WP4.2 partners were designing new content to be used by the consortium, which is to be exploited at the upcoming events.

Towards establishing links to other projects, task forces and initiatives, consortium members were (and still are) in continuous contact with entities already contacted in previous periods of the project. At this point a new opening was made, since liaises were established with the PrestoSpace project.

### 3.5.3 Achievements

During this period we have achieved to:

- Update the web site with fresh material and news
- Perform of a series of presentations about the DILIGENT progress of work
- Establish liaises with other EU funded projects (PresoSpace).

### 3.5.4 Events

DILIGENT consortium members actively participated or even led a large number of events during this period:

- Peter Fankhauser presented the DILIGENT project (with a special focus on data and metadata management aspects) at the Grid@Asia Project Workshop on GRID Middleware, GRID Applications, Tools and Programming Environments in Beijing, China, in June 2005.
- Participated GARR '05 Conference, Pisa, 10-13 May 2005. The GARR Conference\_05 "la rete daPERTutto" ("the ubiquitous network"), organized by Consortium GARR, engineer and manager of the National Telematic Network for Education, University and Scientific Research, took place in Pisa from the 10th to the 13th of May, at the Congress Center of the Research Area CNR of San Cataldo. The GARR Conference\_05 is directed to all Network users and invites them to explore, through the presentation of national and international researches and achievements, the network evolution and the new possibilities that it will bring to the research and culture world.

- Partner participated Annual Meeting of the EBU Education and Science Group ( EBU stands for European Broadcasting Union, [www.ebu.ch](http://www.ebu.ch)), a three day meeting with about 100 experts in Science and Education TV from all major European Public broadcasters. It was hosted by Swedish Broadcaster UR from May 29, to June 1, in Stockholm.
- The Scuola Normale Superiore of Pisa organized the Specialisation Course "Designing for the Web. Digital Libraries of words and images (Research Centres and Libraries)" Pisa, Scuola Normale Superiore, May 23-28 2005 (Scientific co-ordinator Lina Bolzoni- WP 2.1 Leader). During the course, representatives of Italian and foreign important cultural institutions and libraries have discussed the most advanced research perspectives on methods for preserving and communicating the artistic and book patrimony, and on relationships between words and images, in the light of instruments made available by new computer technologies (multi-media archives, Digital Libraries) with references to DILIGENT.
- Beyond Mass Storage - From Local to Global - Towards Globally Distributed Data to Support Global Collaborative Environments, 19-24 June 2005, Sardinia (Italy) (<http://www.globalstor.org/theme-goals.html>). The goal was to provide a forum to promote interaction between the principal communities that are developing communications, data management and storage technologies, and the major Global Science Communities that rely on current and future technologies to accomplish their missions.
- Participated Information Event of the RI Call 'eInfrastructure: Grid Initiatives' and IST Call 'Research networking Testbeds' at Brussels
- Participated Beyond Mass Storage - From Local to Global - Towards Globally Distributed Data to Support Global Collaborative Environments, at Sardinia (Italy)
- Delivered presentation of DLs over Grid and the DILIGENT project to the Polytechnic University, Brooklyn at New York

## 3.6 July – August 2005

### 3.6.1 Objectives

The three fundamental dissemination objectives were also active during this period, yet due to the special situation that rises during this period of the year, effort has been reduced. However an extra task was the major effort, which was the preparation the report on Dissemination activities to be provided as D4.2.3.

### 3.6.2 Activities

During this period dissemination activities have been kept to minimal, due to two reasons:

- DILIGENT full effort has been directed on performing technical work towards producing Service Specifications.
- The specific reporting period season (July – August) was expectedly characterized by a lower level of activity (number of events, availability of contacts)

However, two upcoming events were prepared, which namely are the ECDL 2005 and the EGEE Pisa 2005 Conference performed during September 2005.

Furthermore, effort was provided on the plan, establishment and manage of links to other projects, taskforces and initiatives. Consortium members were in continuous contact with projects and task forces already contacted during the previous periods of the project, preparing for the actual collaboration, which is foreseen for the time when DILIGENT produces materialized technical results (i.e. code and components).

Furthermore, the ground for new collaborations is being prepared by all DILIGENT partners. Yet due to the heavy stressing of DILIGENT on technical work related to producing Service Specifications, and the nature of the specific referenced period season (July – August), which was characterized by a lower level of activity, no new links were officially established.

During this period little action was taken towards maintaining the project's web site since it is currently considered as quite well formed. Content and news were added as soon as they become available. However during the referenced period, project's effort was mainly placed on producing technical deliverables D1.x.1, which will become important content for the web site during the next project periods. DILIGENT WP4.2 members started preparing the ground for hosting this content so that the most will be made out of it with respect to dissemination.

Taking advantage of the low activity of the period, FhG-IPSI produced a 2-pages printed project flyer for DILIGENT for own use. The flyer is being distributed to visitors of the institute, e.g. at workshops held at IPSI as well as at external events and conferences.

Finally, consortium members contributed to scientific papers such as:

- Paper contribution to Ensuring Long-term Preservation and Adding Value to Scientific and Technical data (PV 2005) at The Royal Society, Edinburgh
- Paper contribution to EnviroInfo 2005 Informatics for Environmental Protection Networking Environmental Information: "Access to Distributed Earth Science Data Supported by Emerging Technologies" at Masaryk University in Brno Centre of Biostatistics and Analyses Czech Republic.

### 3.6.3 Achievements

The major achievements where:

- Maintain the web site and update it with fresh material and news.
- Establish link to PrestoSpace.
- Present the project to various significant events and interested parties.
- Custom dissemination material production

### 3.6.4 Events

No major events that DILIGENT actively participated where held during this period.

## 4 DISSEMINATION PRODUCTS

### 4.1 Material

During the referenced period, a significant volume of material, both in digital and printed forms has been produced by the WP members with the contribution of all partners. This material includes the below presented elements.

#### 4.1.1 Logo

Prior to the start of the project, the consortium selected a logo that would serve as the project's identity throughout the duration of the project as well as beyond. The logo was designed using a hexagon as the central theme. Jorge Louis Borges wrote the short story "*The Library of Babel*" [4] in 1941 in which he imagined an infinite library containing all of the world's books configured in the shape of interconnected hexagons. In today's information society, Borges' idea of the hexagon has been adapted in numerous academic publications as representative of the digital libraries. Superimposed on the DILIGENT hexagon is an image recalling the latitude and longitude lines of a globe, clearly making reference to the grid community, uniting digital libraries and grid in a single image.

Creating a DILIGENT brand is the ultimate goal of the project's dissemination and exploitation activities. The logo (Figure 1) serves as a first and essential step in achieving a brand.



Figure 1: DILIGENT Logo (Horizontal & Vertical Orientation)

#### 4.1.2 DILIGENT Dissemination material

A flyer, brochures and poster were produced for the early months of the project for distribution at a number of events. Significant improvements have been made to these materials based on feedback from partners. New versions of the initial dissemination products have been produced which are fully compatible with EU directives and partners' expectations (Figures 2-6).

- **Flyer:** a two-sided three-fold presentation of the project consortium, objectives and scope (horizontal A4)
- **Brochure:** a typical presentation of the project on a two-sided A4 form, which can be easily included in partners' presentations and documents, where the three-fold flyer cannot fit
- **Poster:** a large free-form poster for use in presentations and events (typically to be printed on 70X100cm board)

The above-mentioned products are freely provided to project partners upon request. This greatly enhances the ability to keep all of the above products homogeneous and up to date.

DILIGENT also contributed to the European Commission's *Research Infrastructures Brochure 2004*, as well as the production of a poster using a pre-designed template for the IST Event 2004.

The ARTE Scenario

ARTE is a community of scholars located all over the world, working together to establish a new discipline that merges experiences from research in humanities, social sciences and communication. In order to achieve their objectives these researchers require a common background knowledge base. The DILIGENT platform will provide them, in a short time framework, a cost-effective instrument for setting up VDLs, i.e. common multimedia knowledge repositories equipped with a number of services, specifically tailored to the needs of this community.

The ARTE community is represented in DILIGENT by the Scuola Normale Superiore (SNS), one of the partners contributing rich archives of texts and images. Audio-video content is being provided by the Italian National Broadcasting RAI Educational.

The ImpEct Scenario

ImpEct (Implementation of Environmental Conventions) includes leading actors in the environmental sector, and is represented by the European Space Agency (ESA). This community will exploit the DILIGENT to support conference organisation and the preparation of projects and periodical reports.

International and regional conventions related to marine pollution and the UNESCO World Heritage Programme represent the framework for formulating international environmental agreements.

These conventions are continuously evolving and thematic areas are specialising. Yet, information sources are dispersed among environmental agencies and a DILIGENT-based DL could be the most appropriate tool to enable this community to more effectively coordinate actions.

The European Union is established in accordance with the Treaty on European Union (Maastricht). There are currently 25 Member States of the Union. It is based on the European Communities and the member states' cooperation in the fields of Common Foreign and Security Policy and Justice and Home Affairs. The five main institutions of the European Union are the European Parliament, the Council of Ministers, the European Commission, the Court of Justice and the Court of Auditors. (<http://eur-opa.eu.int/>)

A Digital Library Infrastructure on Grid ENabled Technology  
Start date: September 1, 2004  
Duration: 36 months  
European Commission Contribution: € 6,300,000  
Administrative and Financial Coordinator: ERCIM  
Technical and Scientific Coordinator: CNR-ISTI

Diligent

ERCIM: European Research Consortium for Informatics and Mathematics, France

IST: Istituto di Scienza e Tecnologia dell'Informazione "A. Faedo", Italy

ETH: Swiss Federal Institute of Technology, Zurich, Switzerland

IPSI: Institut für Informatik der Universität Hamburg, Germany

UMIT: University for Health Informatics and Technology, Austria

Engineering: European Organization for Nuclear Research (CERN), Switzerland

Engineering Informatica: European Organization for Nuclear Research (CERN), Switzerland

University of Strasbourg: University of Strasbourg, France

FAST: Fast Search & Transfer, Italy

ESA: European Space Agency, Italy

Scuola Normale Superiore: Scuola Normale Superiore, Italy

IC-SDP: Software Development Ltd., Hungary

Rai.it: Rai Italia Televisione, Emilia, Italy

Project contact information:  
Donatella Cardelli (donatella.cardelli@isti.cnr.it)  
Istituto di Scienza e Tecnologia dell'Informazione "A. Faedo" - CNR  
Via Moruzzi, 1, 56124, Pisa - Italy  
Tel: +39 050 3152902  
Fax: +39 050 3152950  
<http://www.diligent-project.org/>

DILIGENT is partially funded by the European Union under the Sixth Framework Program, Information Society Technologies priority (2002-2006)

"Digital Libraries Powered by the Grid"

Figure 2: DILIGENT 3-fold flyer (front and back page)

Summary

DILIGENT focuses on integrating Grid and Digital Library (DL) technologies towards building a powerful infrastructure that will allow members of dynamic virtual research groups to access shared knowledge and collaborate in a secure, coordinated, dynamic and cost-effective manner. The DILIGENT knowledge management infrastructure will be based on standards and state-of-the-art DL and Grid technologies, which will render it capable of serving a heterogeneous range of research and industrial applications. The potential of the Platform will be demonstrated and validated over two complementary real-life application scenarios deriving from the environmental e-Science and the cultural heritage domains.

Objectives

DILIGENT aims at supporting a collaborative research operational mode among groups of researchers spread remotely worldwide, by providing a knowledge infrastructure that manages a network of shared resources, e.g. archives, database, software tools, and enabling the creation of on-demand DLs. Through DILIGENT, a virtual research group (VRG) will be able to create a dynamic DL meeting their needs by specifying various requirements on the range and the quality of supplied services. A reliable and secure DL will be transparently instantiated and made accessible to authorised end-users through user-friendly web portals. Optimisation in each and every aspect is the key objective, allowing many DLs that will serve different VRGs, to be simultaneously active on the same resources at maximum overall efficiency.

Technological Approach

DILIGENT infrastructure will be composed of a set of interacting services providing: i) a set of typical DL functions, like search, annotation, personalisation, document visualisation; ii) access to information sources and applications provided by third-parties; iii) features necessary for handling the shared content and application resources; and iv) support for the creation and operation of on-demand, transient DLs. These services will exploit the high computational and storage capabilities of the Grid infrastructure released by the EGEE project, in order to support complex and time consuming functionalities, while focusing on optimising resource usage and satisfying QoS contracts.

Collective Layer

The Collective Layer will enhance existing Grid collective services with the functionalities able to support the complex services interactions required by the Digital Library Layer. The Collective Layer will contain services that are not associated with any one specific resource but rather are global in nature and manage interactions across collections of resources.

Digital Library Layer

The Digital Library Layer will select, integrate and enhance a set of reliable and dependable production-quality services, developed in DL projects and applications, in order to cover the fundamental functionalities required for any application in the e-knowledge area. The DLL will provide submission, indexing and discovery of mixed-media objects (documents, videos, images, environmental data, etc.), and the management and processing of these objects through annotation, composition, cooperative editing, etc. It will also support the dynamic creation and access to transient VDLs.

Application Specific Layer

The Application-Specific Layer will produce specifications, API, and SDK that will enable third party providers to migrate their data or functional components to the DILIGENT framework. The ASL will facilitate the plug-in of legacy components needed to support user-specific scenarios, and will enable the re-use of existing content and applications.

Applications

DILIGENT will demonstrate its capabilities of supporting a multitude of applications through the ARTE and ImpEct real-life scenarios. Additionally, internal experiments will create DLs for support activities, e.g. organisation of conferences, preparation of projects, periodical reports and course handling.

Test-Bed

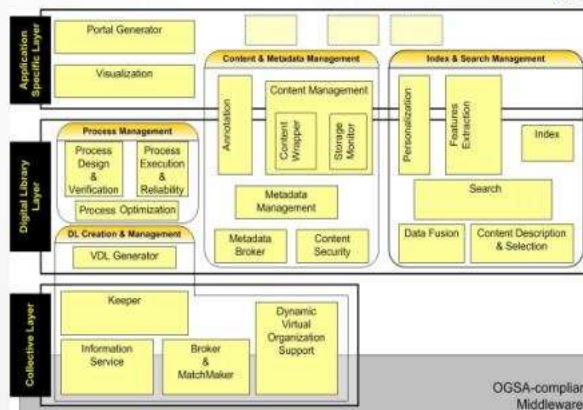
DILIGENT test-bed infrastructure (to be released at the end of the project) comprises hosting nodes, content and application resources provided by the project participants and by collaborating organisations. Its component services will utilize the EGEE infrastructure for carrying out the computational and storage intensive tasks while its functionality will be exploitable by end-users through typical interfaces.

Innovation

DILIGENT lays the foundations for next generation collaboration and knowledge management environments through the realisation of on-demand DLs over a Grid-enabled infrastructure.

Contribution to Standards


Operating in the Grid and DL domains where there are not yet official standards, the DILIGENT experience will contribute to the validation and enforcement of de facto and emerging draft standards.



**Architecture**  
DILIGENT architectural approach builds a stack of logical layers on top of OGS-compliant middleware, achieving the desired modularity and decoupling from the underlying middleware.

Figure 3: DILIGENT 3-fold flyer (internal pages)

A Digital Library Infrastructure on Grid ENabled Technology



"Digital Libraries Powered by the Grid"

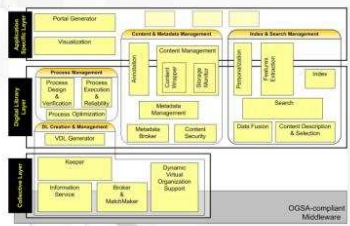
DILIGENT establishes a knowledge management infrastructure based on standards and integration of state-of-the-art Digital Libraries and Grid technologies, capable of serving a heterogeneous range of research and industrial applications, that will ultimately allow the members of dynamic virtual research groups to access shared knowledge and collaborate in a secure, coordinated, dynamic and cost-effective manner.

**Objectives**

DILIGENT aims at supporting a collaborative research operational mode among groups of researchers spread remotely worldwide, by providing a knowledge infrastructure that manages a network of shared resources, e.g. archives, database, software tools, and enabling the creation of on-demand DLs. Through DILIGENT, a virtual research group (VRG) will be able to create a dynamic DL meeting their needs by specifying various requirements on the range and the quality of supplied services. A reliable and secure DL will be transparently instantiated and made accessible to authorised end-users through user-friendly web portals. Optimisation in each and every aspect is the key objective, allowing many DLs that will serve different VRGs, to be simultaneously active on the same resources at maximum overall efficiency.

**Technological Approach**

DILIGENT infrastructure will be composed of a set of interacting services providing: i) a set of typical DL functions, like search, annotation, personalisation, document visualisation; ii) access to information sources and applications provided by third-parties; iii) features necessary for handling the shared content and application resources; and iv) support for the creation and operation of on-demand, transient DLs. These services will exploit the high computational and storage capabilities of the Grid infrastructure released by the EGEE project, in order to support complex and time consuming functionalities, while focusing on optimising resource usage and satisfying QoS contracts.



**Applications**

DILIGENT will demonstrate its capabilities of supporting a multitude of applications through the ARTE and ImpEct real-life scenarios. Additionally, internal experiments will create DLs for support activities, e.g. organisation of conferences, preparation of projects, periodical reports and course handling.

**Test-Bed**

DILIGENT test-bed infrastructure (to be released at the end of the project) comprises hosting nodes, content and application resources provided by the project participants and by collaborating organisations. Its component services will utilize the EGEE infrastructure for carrying out the computational and storage intensive tasks while its functionality will be exploitable by end-users through typical interfaces.

**Innovation**

DILIGENT lays the foundations for next generation collaboration and knowledge management environments through the realisation of on-demand DLs over a Grid-enabled infrastructure.

**Contribution to Standards**

Operating in the Grid and DL domains where there are not yet official standards, the DILIGENT experience will contribute to the validation and enforcement of de facto and emerging draft standards.


**Architecture**

DILIGENT architectural approach builds a stack of logical layers on top of OGS-compliant middleware, allowing the desired modularity and decoupling from the underlying middleware.

**The ARTE Scenario**


ARTE is a community of scholars located all over the world, working together to establish a new discipline that merges experiences from research in humanities, social sciences and communication. In order to achieve their objectives these researchers require a common background knowledge base. The DILIGENT platform will provide them, in a short time framework, a cost-effective instrument for setting up VDLs, i.e. common multimedia knowledge repositories equipped with a number of services, specifically tailored to the needs of this community.

The ARTE community is represented in DILIGENT by the Scuola Normale Superiore (SNS), one of the partners contributing rich archives of texts and images. Audio-video content is being provided by the Italian National Broadcasting RAI Educational.




**The ImpEct Scenario**

ImpEct (Implementation of Environmental Conventions) includes leading actors in the environmental sector, and is represented by the European Space Agency (ESA). This community will exploit the DILIGENT to support conference organisation and the preparation of projects and periodical reports. International and regional conventions related to marine pollution and the UNESCO World Heritage Programme represent the framework for formulating international environmental agreements. These conventions are continuously evolving and thematic areas are specialising. Yet, information sources are dispersed among environmental agencies and a DILIGENT-based DL could be the most appropriate tool to enable this community to more effectively coordinate actions.



**Consortium Members**



**General Information**

**Project Full Title:**  
A Digital Library Infrastructure on Grid ENabled Technology

**Start date:** September 1, 2004

**Duration:** 36 months

**European Community Contribution:**  
€ 6,300,000

**Administrative and Financial Coordinator:**  
ERCIM

**Technical and Scientific Coordinator:**  
CNR-ISTI

**Contact Person:**  
Donatella Castelli (donatella.castelli@isti.cnr.it)  
Istituto di Scienza e Tecnologie dell'Informazione "A. Faedo" - CNR  
Via Moruzzi, 1, 56124, Pisa - Italy  
Tel: +39 050 3152902, Fax: +39 050 3153464

**Diligent**  
<http://www.dilgentproject.org/>

Figure 4: DILIGENT brochure



Digital Libraries powered by The Grid



**Project Information:**  
 Title: A Digital Library Infrastructure on Grid Enabled Technology  
 Start date: September 1, 2004  
 Duration: 36 months  
 European Commission Contribution: € 6,300,000  
 Administrative and Financial Coordinator: EDCIM  
 Technical and Scientific Coordinator: CNR-ISTI

**Project contact information:**  
 Donatella Costelli (donatella.castelli@isti.cnr.it)  
 Istituto di Scienza e Tecnologia dell'Informazione  
 IA, Faedo<sup>1</sup> - I-38  
 Via Mori, 21, 1, 38124, Pisa - Italy  
 Tel: +39 050 3152002  
 Fax: +39 050 3153464

<http://www.diligentproject.org/>

DILIGENT is partially funded by the European Union under the Sixth Framework Program, Information Society Technologies priority (2002-2006).  
 The European Union is established in accordance with the Treaty on European Union (Maastricht). There are currently 25 Member States of the Union. It is based on the European Communities and the member states cooperation in the fields of Common Foreign and Security Policy and Justice and Home Affairs. The five main institutions of the European Union are the European Parliament, the Council of Ministers, the European Commission, the Court of Justice and the Court of Auditors. (<http://europa.u.int>)



# Diligent

## A Digital Library Infrastructure on Grid ENabled Technology

*DILIGENT establishes a knowledge management infrastructure based on standards and integration of state-of-the-art Digital Libraries and Grid technologies, capable of serving a heterogeneous range of research and industrial applications, that will ultimately allow the members of dynamic virtual research groups to access shared knowledge and collaborate in a secure, coordinated, dynamic and cost-effective manner.*

### Objectives

DILIGENT aims at supporting a collaborative research operational mode among groups of researchers spread remotely worldwide, by providing a knowledge infrastructure that manages a network of shared resources, e.g. archives, database, software tools, and enabling the creation of on-demand Digital Libraries (DL). Through DILIGENT, a Virtual Research Group (VRG) will be able to create a dynamic DL meeting their needs by specifying various requirements on the range and the quality of supplied services. A reliable and secure DL will be transparently instantiated and made accessible to authorised end-users through user-friendly web portals. Optimisation in each and every aspect is the key objective, allowing many DLs that will serve different VRGs, to be simultaneously active on the same resources at maximum overall efficiency.

### Technological Approach

DILIGENT infrastructure will be composed of a set of interacting services providing:

- a set of typical DL functions, like search, annotation, personalisation, document visualisation;
- access to information sources and applications provided by third-parties;
- features necessary for handling the shared content and application resources; and
- support for the creation and operation of on-demand, transient DLs.

These services will exploit the high computational and storage capabilities of the Grid infrastructure released by the EGEE project, in order to support complex and time consuming functionalities, while focusing on optimising resource usage and satisfying QoS contracts.

### Applications

DILIGENT will demonstrate its capabilities of supporting a multitude of applications through the ARTE and ImpEct real-life scenarios. Additionally, internal experiments will create DLs for support activities, e.g. organisation of conferences, preparation of projects, periodical reports and course handling.

### Test-Bed

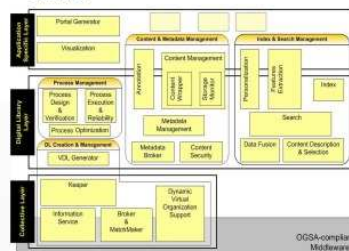
DILIGENT test-bed infrastructure (to be released at the end of the project) comprises hosting nodes, content and application resources provided by the project participants and by collaborating organisations. Its component services will utilize the EGEE infrastructure for carrying out the computational and storage intensive tasks while its functionality will be exploitable by end-users through typical interfaces.

### Innovation

DILIGENT lays the foundations for next generation collaboration and knowledge management environments through the realisation of on-demand DLs over a Grid-enabled infrastructure.

### Contribution to Standards

Operating in the Grid and DL domains where there are not yet official standards, the DILIGENT experience will contribute to the validation and enforcement of de facto and emerging draft standards.



### Architecture

DILIGENT architectural approach builds a stack of logical layers on top of OGSs-compliant middleware, achieving the desired modularity and decoupling from the underlying middleware.

### User Communities

The potential of the Platform will be demonstrated and validated over two complementary real-life application scenarios deriving from the environmental e-Science and the cultural heritage domains.

### The ImpEct Scenario

ImpEct (Implementation of Environmental Conventions) includes leading actors in the environmental sector, and is represented by the European Space Agency (ESA). This community will exploit the DILIGENT to support conference organisation and the preparation of projects and periodical reports.

International and regional conventions related to marine pollution and the UNESCO World Heritage Programme represent the framework for formulating international environmental agreements.

These conventions are continuously evolving and thematic areas are specialising. Yet, information sources are dispersed among environmental agencies and a DILIGENT-based DL could be the most appropriate tool to enable this community to more effectively coordinate actions.

### The ARTE Scenario

ARTE is a community of scholars located all over the world, working together to establish a new discipline that merges experiences from research in humanities, social sciences and communication. In order to achieve their objectives these researchers require a common background knowledge base. The DILIGENT platform will provide them, in a short time framework, a cost-effective instrument for setting up VDLs, i.e. common multimedia knowledge repositories equipped with a number of services, specifically tailored to the needs of this community.

The ARTE community is represented in DILIGENT by the Scuola Normale Superiore (SNS), one of the partners contributing rich archives of texts and images. Audio-video content is being provided by the Italian National Broadcasting RAI Educational.

European Research Consortium for Informatics and Mathematics – France  
 National & Kapodistrian University of Athens – Greece  
 Fraunhofer-Gesellschaft/Forschung der angewandten Forschung e.V. – Germany  
 European Organization for Nuclear Research – Switzerland  
 University of Southampton – United Kingdom  
 European Space Agency – Italy  
 4D SPT Software Development Ltd. – Hungary

Istituto di Scienza e Tecnologia dell'Informazione "A. Faedo"<sup>1</sup> – Italy  
 Swiss Federal Institute of Technology Zurich – Switzerland  
 University for Health Informatics and Technology Tyrol – Austria  
 Engineering Ingegneria Informatica SpA Rome – Italy  
 Fast Search & Transfer ASA – Norway  
 Scuola Normale Superiore – Italy  
 RAI Radio Televisione Italiana – Italy

Disclaimer: The publication has been produced with the assistance of the European Union. The contents of the publication are the sole responsibility of DILIGENT consortium and can in no way be taken to reflect the views of the European Union.

Figure 5: DILIGENT half text poster

"Digital Libraries Powered by the Grid"

*DILIGENT establishes a knowledge management infrastructure based on standards and integration of state-of-the-art Digital Libraries and Grid technologies, capable of serving a heterogeneous range of research and industrial applications, that will ultimately allow the members of dynamic virtual research groups to access shared knowledge and collaborate in a secure, coordinated, dynamic and cost-effective manner.*

**Objectives**

DILIGENT aims at supporting a collaborative research operational mode among groups of researchers spread remotely worldwide, by providing a knowledge infrastructure that manages a network of shared resources, e.g. archives, database, software tools, and enabling the creation of on-demand Digital Libraries (DL). Through DILIGENT, a Virtual Research Group (VRG) will be able to create a dynamic DL meeting their needs by specifying various requirements on the range and the quality of supplied services. A reliable and secure DL will be transparently instantiated and made accessible to authorised end-users through user-friendly web portals. Optimisation in each and every aspect is the key objective, allowing many DLs that will serve different VRGs, to be simultaneously active on the same resources at maximum overall efficiency.

**Technological Approach**

DILIGENT infrastructure will be composed of a set of interacting services providing:

- i) a set of typical DL functions, like search, annotation, personalisation, document visualisation;
- ii) access to information sources and applications provided by third-parties;
- iii) features necessary for handling the shared content and application resources; and
- iv) support for the creation and operation of on-demand, transient DLs.

These services will exploit the high computational and storage capabilities of the Grid infrastructure released by the EGEE project, in order to support complex and time consuming functionalities, while focusing on optimising resource usage and satisfying QoS contracts.

**Collective Layer**

The Collective Layer will enhance existing Grid collective services with the functionalities able to support the complex services interactions required by the Digital Library Layer. The Collective Layer will contain services that are not associated with any one specific resource but rather are global in nature and manage interactions across collections of resources.

**Digital Library Layer**

The Digital Library Layer will select, integrate and enhance a set of reliable and dependable production-quality services, developed in DL projects and applications, in order to cover the fundamental functionalities required for any application in the e-knowledge area. The DLL will provide submission, indexing and discovery of mixed-media objects (documents, videos, images, environmental data, etc.), and the management and processing of these objects through annotation, composition, cooperative editing, etc. It will also support the dynamic creation and access to transient VDLS.

**Application Specific Layer**

The Application-Specific Layer will produce specifications, API, and SDK that will enable third party providers to migrate their data or functional components to the DILIGENT framework. The ASL will facilitate the plug-in of legacy components needed to support user-specific scenarios, and will enable the re-use of existing content and applications.

**Applications**

DILIGENT will demonstrate its capabilities of supporting a multitude of applications through the ARTE and ImpEct real-life scenarios. Additionally, internal experiments will create DLs for support activities, e.g. organisation of conferences, preparation of projects, periodical reports and course handling.

**Test-Bed**

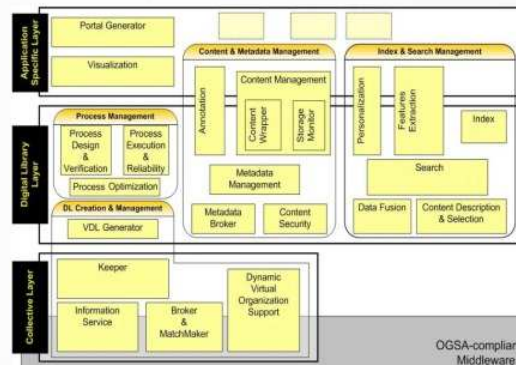
DILIGENT test-bed infrastructure (to be released at the end of the project) comprises hosting nodes, content and application resources provided by the project participants and by collaborating organisations. Its component services will utilize the EGEE infrastructure for carrying out the computational and storage intensive tasks while its functionality will be exploitable by end-users through typical interfaces.

**Innovation**

DILIGENT lays the foundations for next generation collaboration and knowledge management environments through the realisation of on-demand DLs over a Grid-enabled infrastructure.

**Contribution to Standards**

Operating in the Grid and DL domains where there are not yet official standards, the DILIGENT experience will contribute to the validation and enforcement of de facto and emerging draft standards.

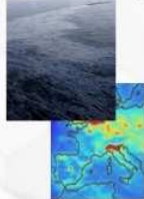


**Architecture**

DILIGENT architectural approach builds a stack of logical layers on top of OGSA-compliant middleware, achieving the desired modularity and decoupling from the underlying middleware.

**User Communities**

**The ImpEct Scenario**



ImpEct (Implementation of Environmental Conventions) includes leading actors in the environmental sector, and is represented by the European Space Agency (ESA). This community will exploit the DILIGENT to support conference organisation and the preparation of projects and periodical reports.

International and regional conventions related to marine pollution and the UNESCO World Heritage Programme represent the framework for formulating international environmental agreements.

These conventions are continuously evolving and thematic areas are specialising. Yet, information sources are dispersed among environmental agencies and a DILIGENT-based DL could be the most appropriate tool to enable this community to more effectively coordinate actions.



**The ARTE Scenario**

ARTE is a community of scholars located all over the world, working together to establish a new discipline that merges experiences from research in humanities, social sciences and communication. In order to achieve their objectives these researchers require a common background knowledge base. The DILIGENT platform will provide them, in a short time framework, a cost-effective instrument for setting up VDLS, i.e. common multimedia knowledge repositories equipped with a number of services, specifically tailored to the needs of this community.

The ARTE community is represented in DILIGENT by the Scuola Normale Superiore (SNS), one of the partners contributing rich archives of texts and images. Audio-video content is being provided by the Italian National Broadcasting RAI Educational.

**ERICM** European Research Consortium for Informatics and Mathematics  
France

**National & Kapodistrian University of Athens**  
Greece

**Fraunhofer-Gesellschaft zur Förderung der angewandten Forschung e.V.**  
Germany

**IPSI** European Organization for Nuclear Research  
Switzerland

**University of Strathclyde**  
United Kingdom

**esa** European Space Agency  
Italy

**4D SOFT Software Development Ltd.**  
Hungary

**ISTITUTO** Istituto di Scienza e Tecnologie dell'Informazione "A. Faedo"  
Italy

**ETH** Swiss Federal Institute of Technology Zurich  
Switzerland

**UMIT** University for Health Informatics and Technology  
Tyrol Austria

**INGEGNERIA INFORMATICA** Engineering Ingegneria Informatica SpA  
Rome-Italy

**FAST** Fast Search & Transfer ASA  
Norway

**Scuola Normale Superiore**  
Italy

**Rai.it** RAI Radio Televisione Italiana  
Italy

DILIGENT is partly funded by the European Union under the Sixth Framework Program, Information Society Technologies priority (2002-2006).

The European Union has established in accordance with the Treaty on European Union (Maastricht), there are currently 25 Member States of the Union. It is based on the European Communities and the member states cooperation in the fields of Common Foreign and Security Policy and Justice and Home Affairs. The five main institutions of the European Union are the European Parliament, the Council of Ministers, the European Commission, the Court of Justice and the Court of Auditors. (<http://europa.eu.int>)

A Digital Library Infrastructure on Grid ENabled Technology  
Start date: September 1, 2004  
Duration: 36 months  
European Commission Contribution: € 6,200,000  
Administrative and Financial Coordinator: ERICM  
Technical and Scientific Coordinator: CNR-ISTI

Project contact information:  
Dionisela Castell (dionisela.castell@istitucn.it)  
Istituto di Scienza e Tecnologie dell'Informazione "A. Faedo" - CNR  
Via Moruzzi, 1, 56124, Pisa - Italy  
Tel: +39 050 3152602  
Fax: +39 050 3152464  
<http://www.diligentproject.org/>

Disclaimer: The publication has been produced with the assistance of the European Union. The contents of the publication are the sole responsibility of DILIGENT consortium and can in no way be taken to reflect the views of the European Union.

Figure 6: DILIGENT full text poster

### 4.1.3 Presentation Template

In order for the project to reach the outer world uniformly, and having in mind to create a distinctive visual concept that is closely bound to the platform to be implemented, the DILIGENT consortium has created a dedicated presentation template to be used throughout all project's presentation. The presentation template, whose design was led by CNR even prior to project's official kick off, is kept simple yet quite elegant and is both used for internal and external presentations.

In order to further facilitate the creation of mature presentations, the various publicly made ones are also made available to consortium partners, through the project's web site.



Figure 7: DILIGENT Official Presentation Template

### 4.1.4 Deliverable Template

DILIGENT Dissemination WP members, designed a deliverable template that fulfils the EU regulations for publications and contributes in its way to the overall establishment of a uniform image of the DILIGENT products.



Figure 8: DILIGENT Official Deliverable Samples

## 4.2 eTools

### 4.2.1 Web site

The website of the project is intended to be the main dissemination channel for the DILIGENT project (<http://www.diligentproject.org/>). It serves as a source of information for external parties that are interested in the work done within the DILIGENT consortium, containing diverse types of information that could be of potential interest to external observers. As DILIGENT covers a large range of potential user communities (e.g., end users, service providers) and topics (i.e., distributed systems, digital libraries, process management optimization, metadata management, personalisation), a large range of documents and discussions will be produced as part of the work. A dynamic website has been produced to ensure easy navigation and fast retrieval of content. Most importantly, it is expected that the progress of the work and the interest of external observers will heavily influence the operation and facilities provided by the project's web site, and its dynamic construction will allow for this necessary evolution. Although this requires an increased initial effort on implementation, the payback is large when it comes to long-term exploitation of the constructs.

Furthermore, the developments of the project and current results, as well as the results of other dissemination activities will be presented via this website.

The project's website was the primary focus of attention for dissemination activities in the first four month's of the project. The web site has been up and running since Month 2.

In a first step, the website was designed and constructed. Bi-directional links were established between the website and the partners' sites. Important news items and feeds were added on a continuous basis. In a second step, effort was used for content addition, visual and functional improvements and normal maintenance activities.

Finally, references to the DILIGENT project were added to EGEE project collaboration web pages.

### 4.2.2 Mailing List and E-Newsletter

The DILIGENT website offers the possibility to subscribe to the project's electronic newsletter. Production and distribution of the e-newsletter will begin in the first quarter of Year 2. The e-Newsletter will be based on a carefully design template that will be produced several months prior to the first publicly distributed e-NewsLetter.

Users of the DILIGENT website can also subscribe to a "mailing list". News posted on the DILIGENT website will regularly be sent to the subscribers via this mailing list.

There will be a clear distinction between the simple mailing list and the e-newsletter, which is mainly focused on the observation that the mailing list will be mostly used for alerts, reminders, submission of quick information (containing further links etc) etc while the e-Newsletter will be a self-contained entity to deliver news that relate to DILIGENT or its addressed thematic areas.

### 4.2.3 RSS News Feed

News posted on the DILIGENT website are available in RSS (a format for syndicating news). RSS-aware programs called news aggregators are popular in the web-logging community and news-oriented sites (such as Wired, slashdot.org, etc.) and part of new-generation personal news readers and web browsers. There are a number of applications for RSS feeds; relevant to the discipline project are:

- other websites can display headlines from DILIGENTproject.org

- users can include DILIGENT news in their newsreader/aggregators to make their own personalised "newspaper".

## 5 CONCLUSIONS

DILIGENT Dissemination Activities are internally considered as one of the most successful parts of the project because not only have they provided a rich set of support material and tools to partners but because they have also achieved to make the project widely known and quite respectful to the scientific world, specific user communities and in some cases, even the general public.

However, this is not that all easily accomplished. We once again conclude that the DILIGENT dissemination plan, as introduced in the DoW and refined in D4.2.2, is quite ambitious and goes beyond the typical publication and website-based dissemination activities. This has a direct effect on the cost of these activities, which is one of the factors to guide the extent of the Dissemination and Liaison actions to be taken by DILIGENT.

Currently additional funding of Dissemination activities is under discussion, nevertheless this will only merely support some extra activities to be taken by DILIGENT, which could be the production of new material by professionals, funding the support for aggregation of various outgoing activities (Dissemination / Exploitation / Demonstration) etc.

The next steps of Dissemination Activities have already been outlined in the D.4.2.2, yet it can be easily figured out that no long-term concrete plan can be built due to the nature of dissemination activities. Dissemination clearly depends on the progress of the technical work a dependency that leaves the place open for speculation. Although DILIGENT's technical work is well on track, it has not yet reached a fully exploitable level. Its early evaluation raises even further expectancies for the impact of the project to the world, as well as the responsibilities for further dissemination and exploitation.

## References

- [1] DILIGENT Contract Annex I: Description of Work
- [2] DILIGENT Deliverable D4.3.2,
- [3] DILIGENT Interim Management Reports for Bi-monthly Periods 1 to 6.
- [4] La Biblioteca de Babel, in El jardin de senderos que se bifurcan, Buenos Aires 1941, cited in The Dictionary of Imaginary Places by Alberto Manguel and Gianni Guadalupi,( <http://www.towerofbabel.391.org/borges.htm>) [1980: Macmillan]
- [5] DILIGENT Web Site (<http://www.DILIGENTproject.org/>)
- [6] CoreGrid Web Site (<http://www.coregrid.net/>)
- [7] SeeGrid Web Site (<http://www.see-grid.org/>)
- [8] DELOS Web Site (<http://www.delos.info/>)
- [9] BRICKS Web Site (<http://www.brickscommunity.org/>)
- [10] REVEAL THIS Web Site (<http://www.reveal-this.org/>)
- [11] Prestospace Web Site (<http://www.prestospace.org/>)