Diligent

A DIgital Library Infrastructure on Grid ENabled Technology

Deliverable No D4.2.2:

"Dissemination Plan"

Feb 2005

Document Information

Project	
Project Title:	DILIGENT, A **DI**gital **L**ibrary **I**nfrastructure on **G**rid **EN**abled **T**echnology
Project Start:	1 Sep 2004
Call/Instrument:	FP6-2003-IST-2/IP
Contract Number:	004260
Document	
Deliverable number:	D4.2.2
Deliverable title:	Dissemination Plan
Contractual Date of Delivery:	Month 6
Actual Date of Delivery:	15 April 2005
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Participant(s):	UoA, CNR-ISTI, ERCIM, ENG
Workpackage:	4.2
Workpackage title:	Dissemination
Workpackage leader:	University of Athens
Workpackage participants:	UoA, CNR-ISTI, ERCIM, ENG, USG, ESA
Est. Person-months:	4
Distribution:	Public
Nature:	Report
Version/Revision:	1.0.40
Draft/Final	Final
Total number of pages: (including cover)	67
File name:	D.4.2.2_Dissemination_Plan_v01
Key words:	*Dissemination Plan; Dissemination; Liaison;*

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DILIGENT is a project partially funded by the European Union

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Summary

This document describes the DILIGENT Project dissemination plan, which will serve as the guideline for the Dissemination and Liaison Activities during the remaining 30 months of the project. This plan handles both one-way traditional or electronically supported dissemination activities, as well as interactive collaborations between the DILIGENT project and selected relevant task forces or user communities, by proposing steps to be taken in a realistic, cost effective manner. It highlights the opportunities to be exploited, proposes the instruments to be utilized and the actions to be taken and sets the rules for facilitating both the sustainable development of the project's outcome and the reuse of technology and knowledge produced by experts worldwide.

Executive Summary

The DILIGENT Project dissemination plan, which is being presented here, will become the guideline for the Dissemination and Liaison Activities during the remaining 30 months of the project.

This plan establishes a strategy aiming to bringing the objectives referenced in the DILIGENT Description of Work to successful completion, i.e. making the project and its work widely known and respected. This strategy defines the various directions in which actions will be taken and raises the need for policies, continuous monitoring, management and evaluation of the activities.

The proposed plan handles the most applicable one-way traditional or electronically supported dissemination activities, and shows the opportunities, media and material to be utilized. This enumeration makes clear the need for the establishment of policies and rules, in order to safeguard both partners' work and the project's reputation. However, a balance has to be achieved among regulations, the independency and freedom of the partners and the overheads that strict regulations would require. As a result, DILIGENT partners will publish mature technical material and will keep the others informed in proper time prior to the finalisation of an action.

Interactive collaborations between the DILIGENT project and selected relevant task forces or user communities are strongly suggested by the plan, for maximizing benefit and/or minimizing costs. EU funded projects and task forces featuring common participants are the first candidates for such activities. In some cases bidirectional links have already been both established and exploited. Careful consideration shows that every activity of this type has to be evaluated and performed on a per-case basis, because both direct cost and required effort might be prohibiting for some of them.

The bottom line is that all steps have to be taken in a realistic, cost effective manner, towards facilitating the adoption and sustainable development of the project's results and the reuse of technology and knowledge produced by experts worldwide.

1 INTRODUCTION

1.1 Outline

This document contains the Dissemination plan of the DILIGENT project, which consists of a set of opportunities, instruments, actions and rules to be considered for the rest of the project, in order to maximize the project's impact on scientific and industrial communities and obtain as much reuse of knowledge and technology as it can from expert parties around the world.

Achievement of the maximum amount of publicity will promote the use of DILIGENT products and increase the chances for their sustainable development, ensuring that the project meets the fundamental objectives of IT research and implementation projects.

Achievement of maximum collaborative activities will result in reuse of knowledge and technology and assist with the optimization of resource usage not only for DILIGENT but also for other collaborating parties.

The above show that, although not a core technical section of the DILIGENT project's effort, dissemination activities have an impact on technical progress of work, because they enforce the validation of the project's outcome and may result in design reconsiderations and reuse of various externally available assets. This is why the plan of these activities is settled at an early stage of the project, when still lacking mature technical output (i.e. operational software).

The remaining document is organized as follows:

- The rest of this chapter (Introduction) presents a brief reasoning for information sources and the background of the effort that is related to its content.
- Chapter 2 (Dissemination Strategy) defines the strategy that exists behind the DILIGENT dissemination plan. It presents the refined objectives of the Dissemination activities and a number of steps that will help into achieving them in an optimal way. Finally it presents the Project teams that monitor and manage the Dissemination activities.
- Chapter 3 (Plan) contains the actual plan of the project regarding dissemination and liaison, by presenting specific opportunities and issues that have to be addressed, introducing the instruments to be utilized and lists projects, events and media that will form primary targets of the relevant activities.
- Chapter 4 (Dissemination Means & Material) contains the dissemination means and material that have already been produced as part of the project's work and will be further enhanced or adopted according to the project's needs.
- Finally, chapter 5 (Conclusions) briefly recapitalises on the issues and opportunities addressed in this document and highlights the next steps to be taken.

Additional valuable reference information is presented in the appendices.

1.2 Sources of Information

Although ambitious, the plan is based on reasonable assumptions about the potential and maturity of both the project and the technology it depends on, and of course the resources that are allocated to this specific activity.

The present plan is an outcome of processing information obtained by the following sources:

- The official IST objectives as stated in the relevant workprogram, published by the EU.

- The Annex I (Description of Work) of the DILIGENT proposal, as revised to form the document to accompany the contract.
- Publicly announced events to be held in the future on thematically related areas (Data & Information Management, Digital Libraries, Grid and Distributed computing)
- Existing lists of thematically related publications known wold-wide, evaluated by their relevance and the expected impact to be achieved.
- Consortium members that participate in other thematically related EU funded or international projects or activities.
- Lists of EU-funded thematically related projects and worldwide taskforces and communities.
- Previous experience of partners on dissemination and inter-project collaboration activities.
- Feedback provided by various external communities as a result of initial Dissemination activities performed by consortium members at local and international level.
- Work carried out as part of the DILIGENT WP4.3 on project's results exploitation, which is closely related to dissemination when it comes to involvement of external communities, users, clients or service providers.

1.3 WP 4.2: About Dissemination

This section describes WP 4.2 structure, which is the workpackage to handle all dissemination activities of the DILIGENT project.

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 structured 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, which has as a main objective the identification and management of various forms of cooperation with other projects, communities or 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.

Organizations participating in WP4.2 are:

- UoA (4 – WP Leader): Dissemination, Liaison activities, Web site
- ERCIM (5): Web site, Liaison activities
- CNR-ISTI (5): Dissemination, Liaison activities, Web site
- USG (2): Dissemination, Liaison activities
- ENG (2): Dissemination, Liaison activities
- ESA (1): 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 progress of work carried outside the 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 DISSEMINATION STRATEGY

2.1 Objectives & Tasks

DILIGENT dissemination objectives, as they have already been presented in the Description of Work document (Annex I) aim to achieve a number of objectives 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 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 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 Information Retrieval 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 Roadmap

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 will be performed effectively and in a way that the project's reputation and effort will not be risked at any point.

At this point in time, six months after the project's initiation, the objectives which were initially set have been evaluation and they are considered quite valid and reasonable, as it can be judged early on by already performed actions, keeping in mind that this project has not yet produced applicable products, i.e. software.

Apart from setting these valid objectives and tasks, the following have been identified:

- Dissemination instruments, i.e. which media, events and products will be utilized in order for the objectives to be materialized.
- Mechanisms and rules to safeguard both the external perception of project (trustworthiness) and partners' work and effort.

Because of the wide spectrum of tasks and the size of the targeted audience, careful planning and management of Dissemination and Liaison activities has to be done at this initial stage of the project.

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

In the following paragraphs we give a short description of the above-mentioned steps and the initial rules and guidelines that will lead them. 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.)

2.2.1 Identification of opportunities and target groups

As already mentioned DILIGENT Dissemination and Liaison objectives implicitly refer to a wide range of activities. In order for these to be made easier to achieve, a concrete mapping of specific opportunities and tasks has to be made.

The following list contains the initial areas sought for obtaining contacts and opportunities for collaboration and target groups for dissemination and exploitation:

- DILIGENT consortium members participating to other relevant projects

- Other relevant projects
- DILIGENT consortium members participating to relevant task-forces
- Other relevant task-forces
- Standardisation committees
- User communities

Prior to referring to these, we have to define the term "relevant". Generally it is considered that DILIGENT addresses various thematic areas and can be a good candidate for collaboration to various externals dealing with:

- Research and development on:
  - Information Management, Digital Libraries, Information Retrieval, Databases
  - Distributed / Grid computing
  - Resource management
  - Process management
  - Service Oriented Architectures
- Applications of Digital Libraries (as a candidate infrastructure platform)
- Grid infrastructure exploitation (as a candidate application)

Back to the identified areas, the first one offers a very good opportunity for establishment of quick links among parties through the common participants. The following instruments are expected to be utilized:

- Joint organization of events, public (i.e. conference panels, presentations, etc.) or internal (i.e. training) to minimize cost and maximize benefit
- Brainstorming meetings for facing common challenges
- Exchange of technology and knowledge
- Exchange of classified documents (will be considered on a per-case basis)

At this stage the major candidate projects have been identified, which are referenced in §3.2.1 (Projects). Additionally the first practical steps have already been taken with some of the referenced projects.

The same activities are roughly being envisioned with regard to collaboration with other relevant projects, however it is currently a policy that this will be considered at a later stage. This is because we believe that DILIGENT has to reach a mature technological stage prior to coming into strict collaboration with external projects. This does not prevent DILIGENT from monitoring relevant project's publicly announced progress of work and identify opportunities for reuse and collaboration, and, if appropriate, initiate collaboration at early stages.

The next three groups of identified cases refer to activities that address external task forces that can be important to DILIGENT's work. At this point DILIGENT technical workpackages have identified a quite wide range of technologies, platforms, components, standards, etc. that offer good candidates for reuse in the implementation stage of the project.

At this early stage there have already been made contacts that relate to this group of activities and a brain storming session has already been held with the "Condor" team head, Miron Linvy.

Other examples of opportunities in this category include Software components (indexing, search, XML management, etc.), Software platforms (portal engines, application servers, etc.), Algorithms (optimization, information processing and retrieval, etc.), Standards (query languages, etc.), etc.

More particularly getting in contact with standardisation committees is referenced here as a potential activity, but it will be very carefully considered only when the project is able to

present quite mature results. It can be easily observed that there are quite a lot of standards for the majority of areas addressed by DILIGENT and the introduction of new ones would rather damage than improve the situation. So it is considered that DILIGENT will build on top of them. Under this policy, DILIGENT will mostly be a consumer for these and involvement with any standardisation committee will be for advisory reasons (committee to DILIGENT).

Finally, a major objective of DILIGENT dissemination and liaison activities is to address and trigger the active involvement of user communities. It is expected that they will provide valuable feedback on the project, introduce challenging requirements to be considered and have a major impact on platforms sustainable development.

As an infrastructure project, DILIGENT addresses two major groups of potential user communities: end users and content / service providers.

Potential end users are already represented in the DILIGENT project by three partners: ESA, SNS and RAI. Within the project, ESA specifically represents leading actors in the environmental sector while more generally representing a group of e-Science applications. Other science fields (e.g., biologists, astrophysicists, meteorologists) with a specific need of sharing computational and storage resources for collaboration have many requirements in common with DILIGENT's ImPECt scenario. The ARTE scenario, including SNS and RAI, covers a larger and more disjointed spectrum of potential users. SNS represents a broad range of communities devoted to collaborative, multidisciplinary work on text, or "computing in the humanities". RAI represents the broadcasting industry.

At this early stage of the project, a quite significant interest of external user communities of end-users has already been addressed and it is expected that upon platforms appearance, this will significantly increase. However, involvement of new end user communities introduces implicit costs for the project, so it has to be carefully considered how these communities will be managed and supported. The form of collaboration and support will be considered on a per-case basis, by the appropriate DILIGENT committee.

The second user community, the content / service providers, is not currently actively engaged in the DILIGENT project, even though RAI can be considered as a potential one. However, the content / service providers are an easily identifiable group and their role will eventually be indispensable in measuring the success of DILIGENT. A major success factor in the evaluation of the project will be the number of service providers that migrate to the DILIGENT-powered infrastructure to provide their services, e.g., feature extraction meta-data generation, index and search.

2.2.2 Definition of instruments & media

Processing presented dissemination and collaboration opportunities shows the need for various types of instruments that assist meeting the objectives of these activities. These can be grouped into the following classes of instrument that:

- Facilitate collaboration among involved parties, i.e. bidirectional flow of knowledge and technology
- Promote the publicity of the project and its results in a unidirectional informative manner
- Provide targeted or generic information to DILIGENT dependent communities, i.e. support and assistance
- Allow the provision of feedback and suggestions / requirements raised by scientific and user communities

The various instruments and media that will be exploited for the purposes of DILIGENT's dissemination and liaison activities fall mainly within the following areas:

- Publications
- Events
- E-Media

Publications refer to both electronic and printed medial. They include:

- Press releases
- Short articles published on the Internet or in journals and magazines, and
- Academic-level papers published in renowned scientific journals.

For academic and research organizations, publications can be also considered as a form of exploitation of DILIGENT's results while press releases and newsletters directly support the exploitation of DILIGENT by making publicly known its products.

Events refer to both collaboration and dissemination and include participation to, or organization of:

- Presentations at conferences
- Seminars
- Workshops
- Training events
- Networking sessions
- Specialised meetings, etc.

These events may be organized by the DILIGENT project itself, other projects, the European Commission, or other associations (e.g., specialized in grid or DL domains). This centre of activity is the project's primary means of contributing to Task 4.2.3 Liaison with Other Initiatives.

E-media is primarily concerned with the DILIGENT project website and the services made available there:

- Content published on the site
- DILIGENT e-Newsletter for the delivery of official project's news to the public
- Alerts and notification via mailing lists
- RSS feeds exhibiting DILIGENT news and information on the websites of interested parties
- Contact forms that allow the provision of feedback and the submission of requests to the appropriate DILIGENT handling contacts

Additional options will be evaluated in the future, such as the creation of open forums.

2.2.3 Quality and legal-ethical conformity assurance

The DILIGENT consortium consists of a large number of partners and it is expected that many external groups will be involved in various ways throughout its lifetime. It is also a general observation that either implicitly or explicitly, all of the project's partners are involved in dissemination activities. However dissemination activities are the ones that give the project's results to the public and it is a general agreement that the most should be made in order to:

- Present the project and its work in a consistent way
- Safeguard partners' and project's work and fame both legally and ethically
- Maximize effect and minimize cost of activities

All of the above require that the various actions that export project's work or import others effort, knowledge or technology should conform to quality, legal and ethical rules.

Nevertheless it is almost impossible to pose a-priory quantitative rules for such activities. Although some guidelines are being settled (see §3.1 Policies), each case will be considered as a separate opportunity / event. This makes clear that certain DILIGENT consortium management committees monitor the various activities and take actions. Since most DILIGENT committees are multi-organisational, and every participant participates in at least one committee, it is safeguarded that every partner has the opportunity to express an opinion, suggestion or objection on a per-case basis.

2.2.4 Dissemination material production

A stage in the cycle of the Dissemination plan is the production of material. Material refers to both complete products as well as components that can be reused in order to produce large constructs. Examples of dissemination material include:

- Flyer
- Poster
- Logo
- Additional graphics
- Presentation Template
- Deliverable Template

Although an initial set of these has been produced at a very early stage of the project, the need for more material is certain to occur.

2.2.5 Management

The already presented range of activities, and the expected size of interested parties addressed raise the need for capable management. DILIGENT project already offers work teams focusing on various topics that will be reused for the management of various activities and incidents related to dissemination activities. As a reaction to feedback, new ones might enrich these.

- WP4.2 members, organize the production of material, create the tools and coordinate various joint events.
- Communication and Aggregation Team (§2.3.2) handles the involvement of user communities.
- Executive and Steering Committees provide the high level instruments of managing the objectives and resolving specific classes issues.
- The Technical Committee is implicitly involved on almost every technical collaboration opportunity.
- WP Leaders and participants must manage collaboration on, and dissemination of WP's products and work on a per-incident case.

Roles of these committees are:

- Initiation of activities
- Monitoring of events and activities
- Evaluation of progress
- Resolving conflicts
- Synchronization of activities

Etc

More on management is presented in the section §2.3 (Management Tools and Committees).

2.2.6 Monitoring Activities & Progress

DILIGENT as well as other projects and technologies do not exist in a sandbox. They influence and get influenced from the environment. In this manner it is required that close monitoring of externally organized activities takes place in conjunction to tracking the status of state-of-the-art and the trends beyond it. This will allow the project to adapt its collaboration and dissemination targets and grab new opportunities for achieving its objectives.

Some of the items to be tracked, as part of the WP4.2 activities, are:

- State-of-the-art, captured in applied solutions produced by projects, scientific communities or industrial organizations
- Beyond-state-of-the-art trends as presented in scientific publications or other relevant media
- Creation of new taskforces, projects and standards, or extinction of existing ones
- New events organized in the areas addressed by the project

2.2.7 Adaptation

The whole Dissemination is plan is being built having in mind that it is a highly dynamic procedure that must continuously adapt to new parameters and status. Some reasons for adaptation are:

- New trends in the areas addressed by the project
- New taskforces, projects and standards
- The impact of the project might cause modification of initial plans
- Involved communities guide project to extended fields

Etc

Because of this need for adaptation, most of the steps of the dissemination plan are taken in cycles, i.e. design, implementation, evaluation.

2.2.8 Dissemination activities progress evaluation

The WP4.2 participants meet on a bi-monthly basis (either in person or by teleconference) in order to evaluate progress of the project's dissemination activities and to adjust planning where needed.

The DILIGENT consortium has developed a number of "success indicators" that are applied to internal evaluation of the project as a whole. A number of these evaluation criteria are highly relevant to dissemination activities and will be referred to frequently by the WP4.2 participants. The success indicators to be used constructively are listed below:

Table 1: Classification of indicators

NO	DESCRIPTION	TYPE
T	**Technical**	
T1	State of the art monitoring (projects, papers, references taken into considerations)	Quantitative,
T2	Number of technical reports and scientific papers produced	Quantitative
T3	Integration between DILIGENT and research activities (thesis, collaborations, etc.)	Quantitative

NO	DESCRIPTION	TYPE
T4	Level of complexity in building a DL	Qualitative,
T5	Level of complexity in sharing a content and application resource	Qualitative
T6	Number of developed functionalities that may be reusable by other applications	Quantitative
T7	Demonstrations, trails and prototypes designed and produced	Quantitative
T8	Number of interaction meetings with the DL and Grid communities	Quantitative
T9	Amount of feedback given to the DL and Grid communities	Quantitative
T10	Quality of the system documentation	Qualitative
I	**Innovation and Integration**	
I1	Numbers of users comments and observation integrated into the systems	Quantitative, Report
I2	Integration between DILIGENT and other European initiatives (workgroups, NoE, etc.)	Report
I3	Number of jointly organised conferences, seminars, workshop and/or summer/winter schools	Quantitative
I4	Number of external attendees to project-sponsored events	Quantitative
I5	Number of extra-European joint collaborations (e.g., North America, Latin America or Asia)	Quantitative
I6	Number of organisations (i.e., industry, users) involved in project-activities	Quantitative
U	**User Communities**	
U1	Analysis of Value created for the users	Qualitative, report
U2	Numbers of content and application resources integrated into the system	Quantitative, report
U3	Number of new observers	Quantitative, report
U4	Percentage of users involvement into the requirements specification and feedback	Quantitative, report
U5	Publications in user specific context (guidelines, best practice, papers, etc)	Quantitative
U6	Number of contacts made by interested parties	Quantitative
V	**Valorisation**	
V1	Numbers of researchers trained outside the Consortium	Quantitative
V2	Hours of training provided	Quantitative

NO	DESCRIPTION	TYPE
V3	Number of training subjects	Quantitative
V4	Training documentation produced	Documentation
V5	Successful participation and trainee satisfaction	Interviews, user analysis
V6	Number of demonstrations	Quantitative
V7	Number of different types of demonstrations	Quantitative
V8	Press echoes (articles, references, etc)	Quantitative / Qualitative
V9	Estimation of investment and resources attracted to enlarge the community and the results	Quantitative, Report
V10	Web site impact (Numbers of access, feed-backs, downloads, etc.)	Quantitative, report
V11	Impact on international cooperation (joint events with global grid communities)	Qualitative
C	**Consortium**	
C1	Number of inter-consortium meetings, including conference attendance	Quantitative
C2	Number of focused meetings for competencies exchange	Quantitative
C3	Number of researchers trained within the consortium in a dedicated training event	Quantitative
C4	Compatible and harmonised informatics tools (e.g., BSCW, website)	Qualitative
C5	Common classification methodology	Qualitative
C6	Sharing of pre-existing know-how (further to what is foreseen by the consortium agreement)	Documentation
C7	Distribution of intellectual property rights inside the network	Documentation

Different measurements methodologies

Four different means of measure will be used to control the project, all of these have been listed in the next table.

Table 2: Types of measure

CODE	DESCRIPTION	TYPE	EXAMPLE
Q	The very clear quantitative indicators with a numerical target	**Q**uantitative	Number of access
R	This typology of measurement indicates that the success	**R**eport	Capacity to attract investment

CODE	DESCRIPTION	TYPE	EXAMPLE
	indicators is for one part quantitative, but also qualitative, to have a better evaluation, a more detail analysis is needed.		
I	For all indicators including the user interaction and satisfaction it is impossible to evaluate the success status without an analysis of real user behaviour in managing the system. For this reason this class of indicators will be used where the users interaction is needed.	**I**nterviews and user interaction analysis	User interface satisfaction
D	In this case the achievement of the indicator must be evaluated according to the documentation produced for the Project. ***Please Note.*** *The difference between documentation and Report is that in the first case the analysis will be based on documents produced for the project, instead Report means a document produced "ad hoc" for the indicator measurement.*	**D**ocumentation	User manual and SW documentation

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.

2.3.1 Dissemination WP Group

The following sub-group of participants covers most of the management requirements set by the Dissemination and Liaison activities:

- UoA (WP4.2 Leader)
- ERCIM
- CNR-ISTI
- USG
- ENG
- ESA

As stated in §1.3 (WP 4.2: About Dissemination) these partners are the ones that participate WP 4.2 and their primary role is to coordinate, manage and support the various dissemination and liaison activities. More particularly they:

- Develop the dissemination plan and manage most of its execution.
- Produce dissemination material.
- Coordinate the publication of science and technology.
- Develop and handle the tools to assist dissemination (web site etc)
- Coordinate or organize events and collaboration.
- Support other partners in their exploitation and dissemination.

Dissemination WP group of partners redirects execution to higher-level committees (e.g. ExComm or SC), technical committees or even specific partners and contacts on a per-case basis.

2.3.2 Communication and Aggregation Team

The Communication and Aggregation Team is a result of carefullly studying the requirements, objectives and opportunities of DILIGENT when interfacing with the world and it is cross workpackage team, because it addresses needs of both WP4.2 (Dissemination) and 4.3 (Exploitation).

This team aims to improve the material for dissemination under a communication point of view, that is the message passed, the media to be used etc, which are partially addressed by the Dissemination Plan. Additionally, since many interested parties are requesting opportunities to participate, contribute or get informed in some way, the need for aggregation and management of them in collaboration with the DILIGENT exploitation related partners is quite essential while keeping them fit into existing effort and tasks.

Communication and aggregation team manages the corresponding activities:

The communication activities among others cover the following:

- Clarification of concrete use of the DILIGENT system
  - Scenario of use for customers/developers/final users
  - Pros and cons of applied technologies
  - Social and organizational challenges (vision)
- Brand definition
  - Logo for the "product"/result
  - Communication style and approach (what, which media)
  - Gadgets
- Construction of a demo
  - CD or dedicated Web site

Etc.

Community aggregation activities must resolve among others issues such as:

- Guest access into the Web site:
  - Collection of references and profiles, under user's permission
  - Creation of thematically focussed mailing lists (design principles, use of Grid technology, innovation in DL technologies, etc.)
  - Access to: public + open docs (not available for general public)
  - Address the possibility to give feedback (requirement, technical support)
- Provide the opportunity of becoming Developers (open sourcing of code)
- Provide the opportunity of becoming Beta Testers (download SW, accessing testing DILIGENT infrastructures, give feedback to developers)
- On-line training session (live demos, videoconference)
- Broadcasting of tutorials (even in real time)
- DILIGENT events
- Consider and manage restricted or even unrestricted access to infrastructures.

Etc.

3 PLAN

The following paragraphs introduce various guidelines, rules, policies, decisions, proposed activities that are being applied at the various steps presented in §2.2 (Roadmap) to form the concrete dissemination plan of the DILIGENT project.

3.1 Policies

Inhere presented policies define the general attitude towards various forms of activities and interactions. Their application is subject to a per-case evaluation of their applicability.

3.1.1 Approval Procedure

In the following text there will be continuous reference to "approval". The procedure of obtaining approval in DILIGENT will be kept quite simple and efficient, yet powerful. It is a two-step action:

1. Announce intention
2. Obtain approval

The approval requesting party should announce its intention for a specific action to the DILIGENT project's instruments, so that the mostly interested parties are being informed. This should be done at least 2 weeks prior to the requested action to be taken. In extreme cases that this cannot be achieved, the notification must be made as soon as possible. Interested parties are committees, partners, persons or entire workpackages, depending on the action to be taken.

The related project's mailing lists must be utilized for the announcement, always having copies sent to the entire WP4.2 list or at WP 4.2 leader (in more sensitive cases), or the Executive Committee (ExComm) in extreme cases.

Unless an objection is raised, approval is obtained implicitly, i.e. by not getting any sort of objection within reasonable requested time.

Cases of objection can be various, 3 of which can be easily predicted:

- Full objection to the announced action.
- Slight objection or comment for modifications.
- Objection on the procedure, i.e. redirection of the approval to other procedures, proposed on a per-case basis.

WP4.2 management group is the committee to propose a first level solution to any not automatically resolved issue, however in case a dead-end is reached, higher level project committees will be fed with the issue.

From this point on, approval refers to the above-mentioned procedure.

3.1.2 Generic Guidelines

In addition to the approval the following is a generic set of guidelines for DILIGENT events and material:

- Intentions to perform any primary dissemination activity are generally required to pass the approval stage, using the referenced tools (global mailing lists, WP lists, etc.).
- Partners should not initiate DILIGENT dissemination activities on topics that fall out of their involvement in the project.
- ExComm and Steering Committee (SC) are to decide on conflicts.

- All publicly held activities should present their material in electronic form to the rest of the consortium.
- All dissemination material should identify ways of acknowledging DILIGENT, e.g.
    - Indicate that it is true result of DILIGENT work and have a robust basis.
    - Indicate that it contains results related to DILIGENT theme/work
- A specific event/action should be proposed to WP4.2 for validation, if it is a project-wide dissemination activity.
- Strictly local events and actions might not conform to all rules presented inhere; however a notice should be always made to the project instruments.

3.1.3 Participation to events

Gathering information

ERCIM, Co-ordinator of the DILIGENT Project, is also currently coordinating 5 other FP6 projects, of which one NoE in the grid domain (CoreGrid) and one NoE in Digital Libraries (DELOS). Therefore, much of the information concerning related project activities, originating from the European Commission as well as other projects, passes through ERCIM. Moreover, many of the DILIGENT participants belong to departments, which are actively involved in other EC-funded projects (e.g., CERN as Co-ordinator of EGEE, ENGINEERING as Co-ordinator of BRICKS).

Once a DILIGENT partner receives information on an up-coming conference, workshop, etc., the informed person:

- Sends an email to the all-DILIGENT mailing list informing the consortium of the up-coming event
- Enters the event, location and any other useful information on the DILIGENT Calendar which is located on the BSCW shared workspace

When a DILIGENT partner receives an invitation to present an aspect of DILIGENT at an event, or to represent the project on behalf of the consortium, the informed person:

- Sends an email to the Scientific Co-ordinator and the Administrative Co-ordinator (i.e., D. Castelli and J. Michel)
- The Co-ordinators discuss and agree on the most appropriate person to present at the event

In exceptional cases, such as the EGEE Conferences, the SC decides on the group of individuals that should attend in function of the learning that can be acquired.

In all of the above cases, WP4.2 participants are informed so that the appropriate dissemination material can be prepared and ready for the event.

Attending the event

When presentations are made externally, the presentation should be sent to the SC for comments and approval prior to the event. Ensuring that the SC receives a copy of all presentations made also allows the WP4.2 participants to create a repository, which can facilitate the production of presentations for "first-time" presenters.

After the event

When a DILIGENT member participates in a conference, workshop, etc. that is not directly related to the project, the person is invited to attach a brief memo of the event to the date

posted on the BSCW Calendar. In this way, people can easily reference the event, the date and read a summary of the event, knowing the person to contact for more information.

For the EGEE Conferences, and other training events, the attending individuals are requested to produce as a group a summary document of learning and knowledge obtained. This summary should be distributed to the relevant technical workpackages along with any other important documents distributed at the event. The experience will be discussed in more detail at the following set of technical meetings.

3.1.4 Presentations

Performing DILIGENT related presentations in various events is a task that might be carried out by every DILIGENT partner, for own exploitation and publicity. Thus making presentations is not an obligation or privilege of dissemination related core partners (i.e. WP4.2 participants).

Nevertheless there are some minor restrictions:

- Regarding to the presenter, if more than one partners has access to the event, then a decision in common has to be taken. Generally the mostly related to the event or targeted audience person should be selected, however exceptions might occur. Example of high relevance is a local partner at local presentations, etc
- Presentations should always use the supplied template of DILIGENT in their current form (i.e. time of presentation) unless otherwise dictated by the specific event
- Presentation material should always make clear reference to the DILIGENT project
- Presentations should conform to the EU rules for publications
- Existing presentations can (and should) be reused, after publicly notifying their creators and obtaining approval for any modifications. However it is an ethical policy that some reference to the creator should be made
- Making publicly a presentation on other's work (i.e. work not produced or owned or assisted) by a partner should always follow approval of interested parties. Stated in another way, public presentations' material should generally be approved by the partners that are involved in the work being presented.
- No presentation should publish classified material of the project without explicit permission from the relevant committees
- General description of the presentation content should be made available prior to presentation for comments
- Presentations should be made internally available to DILIGENT partners and, if approved by interested parties, made publicly available through project's e-tools
- Presentations should explicitly respect Consortium Agreement

The above-mentioned policy might severely change to face needs that might rise in the future.

3.1.5 Publications

Publications are in a way similar to presentations and many of the above-mentioned rules are also applicable.

Publications can be categorised as "PR" (public relations) and "scientific". The first category usually refers to documents that abstractly cover topics addressed by the project, while the second one to the widely known scientific world publications.

Prior to obtaining mature technological and scientific results, only Public Relationship building publications will be made. In order to safeguard project's and partners'

trustworthiness, scientific publications will be attempted only after robust results are achieved.

Generally projects do not pose restrictions on scientific publications, because of the well known applied ethical rules that do apply to such cases (regarding references, authors, unpublished work, owned work, proofs etc). All of these will be safeguarded within DILIGENT dissemination activities, plus a number of rules that are internal to DILIGENT, such as:

- Scientific publications must be announced to the consortium, under a simple multi-step procedure coping with limitations posed by IPRs and ethics[1]:
  - An optional request is submitted to other interested parties for collaboration etc[2]
  - A simple notification is posted to the consortium right after the submission of the first draft to the event / medium[3].
  - An optional abstract is submitted to other interested consortium members[4]
  - An "executive summary" version of the document is presented to the consortium for approval, 2 weeks prior to the final submission ("Camera ready" version)
  - In case no external limitation applies to the publication, the full text of the published document is made available to the entire consortium right after the final submission[5]
- All partners that are being involved in the actual work that a publication is based on should be consulted prior to its announcement.
  - Special care should be taken on crosscutting work publishing.
  - Copyright issues will be faced upon partners' objection.
- In addition to the above, as a general guideline, the rest of the partners that are involved in the work being presented should internally approve the published material.
- Publications should conform to the EU rules for publications.
- All publications should refer to DILIGENT project as their primary supporting action.
- Partners should limit publications on work which is their main objective within DILIGENT, unless otherwise approved by the project members.
- Publications should explicitly respect Consortium Agreement.

3.1.6 Actors & Observers

In DILIGENT the term "observers" and "new communities" has often been used up to now to identify anyone who contacts project members with the intention to participate or collaborate in some way with the project.

The term "observer" implies a passive involvement (i.e. in general we could imagine an observer as a passive participant, watching or monitoring events or activities), thus it is not

[1] Although publications fall under the approval procedure, the actual event in this case is not the delivery of the first draft to the organiser of an event / publication, but rather the submission of the final document (i.e. the "Camera Ready" version).

[2] This is a suggestion, not a rule.

[3] Within 2 weeks.

[4] This is a suggestion, not a rule.

[5] Within 2 weeks, or upon request.

a proper label for various cases. The same case applies to the term "new communities" for various other reasons.

When trying to split requests and other that may arise in two main groups, we reasonably come to two major categories: passive and active involvement. Although distinction is not yet full because some activities are not clearly active or passive, we will keep the terms active and passive for the rest of the document, accompanied by the appropriate noun.

Passive involvement includes:

- Using DILIGENT archives (to have access to DILIGENT archives as third-party application)
- Including DILIGENT presentation in an event (receive information – in general – for their own purposes)
- Use of DILIGENT platform for achieving actor objectives
- Using DILIGENT infrastructure for achieving actor objectives
- Receiving news and information of various levels regarding DILIGENT progress and findings
- Receive assistance and support from DILIGENT members
- Obtaining API's and technical info for external development (e.g. plug-ins etc)

Active involvement includes:

- Participation to design (participation to design, brainstorming meetings etc)
- Joint development (participation to design and development of DILIGENT SW components, sharing costs and risks, potentially doubling of requirements for the component etc)
- Testing DILIGENT software
- Debugging DILIGENT software
- Providing documentation, experiences, support and any other kind of feedback on DILIGENT products

For these two categories DILIGENT will act as follows:

- Passive involvement cases will be handled by the DILIGENT communication mechanisms, already established within the WP4.2 scope, after appropriate enhanced in order to meet any additional needs
- Active involvement cases will be handled by identifying new tasks or activities to accomplish with the required effort, in collaboration between WP4.2 and WP4.3 of DILIGENT project

The following paragraphs offer more information about the above-mentioned categories, as well as the policy regarding new communities.

3.1.6.1 Passive Involvement

The main objective of is to organize the interaction with this kind category of observers in a way that it will keep them interested and well informed about project progress at a minimal cost for both DILIGENT and interested parties. The various e-tools and material presented in the related sections of this document will assist achieving this target.

Passive observers are parties that will usually appear by sending a request of information or material related to the project. Their aim is to receive the information that addresses their challenges.

Many opportunities have already been presented:

- A web FAQ section, about the project, easily accessible from the DILIGENT project home page, with all the relevant information required to comprehend the project.

The question should be decided on a practical basis based on experience in interacting with people asking information about DILIGENT itself. The language will be very simple eventually linking with documents or pages in the web sites or put in contact with the right person in the consortium.

- Registration forms to register people looking for updates, notifications or restricted information. Such registration form will serve:
  - To avoid disclosure of relevant information to any web-surfer;
  - To monitor the access and download of relevant documents
  - To save personal[6] and business information about people interested in DILIGENT.
  - Access automated mechanisms of the site such as the mailing lists and the e-newsletter.
  - Exploit the database created by the registrations[6]:
    - Contact persons or organizations for event participation or collaboration on specific thematic areas.
    - Periodical submission of the newsletter and the mailing list notifications.
    - Opening debates about hot topics.
    - Reveal from the registration forms, interested topics and trends in the DILIGENT audience.
- Mechanisms, such as forums and dynamic FAQ tools, for minimising support costs and easing the involvement of other users.
- Organize public events at special DILIGENT conferences or brainstorming meetings, eventually in collaboration with other projects.
- Prepare special dissemination documents (presentations, flyer, posters) for different actors profiles:
  - Universities: more focused on advances in research results
  - Industries: more focused on business enabling
  - Institutions or funding bodies: more focused on social issues as digital divide;

All these initiatives are fully covered by the scope of WP4.2.1 in particular within the T4.2.1 for what concern the development on the web sites, the T4.2.3 for the public events, the T4.2.2 for the rest.

However the extent of the various related dissemination activities will be limited by the relevant allocated budget of the project. Massive dissemination activities raise a significant cost with regards to overheads and other externalities (material, organisation etc), and they require significant effort by the actors, for both organizing and maintaining them.

3.1.6.2 Active Involvement

Proposals for active involvement are expected to require most of the above-mentioned information however one-way of documents is not adequate, since the focus is on collaboration with the project.

There are many reasons behind a potential request for active involvement:

- Universities
  - interested in having research results well comprehended,

[6] After obtaining users admission, safeguarding privacy regulations.

  - exploitation of research results within the project (and have money to do it)
  - share results and effort to reduce costs and risks for both
- Enterprises
  - interested in managing the technology for their actual or new coming business (they could be interested in paying for collaborating)
  - want to exploit commercially the research results (they contribute to the project in effort and or money based on agreement on commercialization of early results)
  - interested in bringing their solution or product in the project design to lock-in other potential customers
- Institutions (public or private)
  - want to promote social issues through the project potential
  - want to promote a certain standard or potential standard reaching more customers through project target users

For these kinds of actors (either requesting personal or organizational involvement) there are a number of alternatives for collaboration. The main point is the trivial calculus of any extra-effort deriving by new tasks or activities run with them. The most useful solution is to find a collaboration mechanism that is not far from the project day-by-day activities saving the expected outcome for any participant partners (that is non-disclosure of pre-existing knowledge and IPR of produced knowledge).

The general rule is act on a per-case basis: to evaluate the pros and cons, estimate the effort required and decide at partner, Workpackage, Technical or Executive Committee level the degree of involvement.

An opportunity that will be considered at a later stage of the DILIGENT project, is the creation of an open-source community whose aim will be the development of the DILIGENT platform or some of its component.

To understand benefits of this solution we should first define the business model of DILIGENT. This is quite impossible at the moment since the project is not yet mature enough to identify the right results exploitable under commercialisation.

Some reasoning can be done to support or defy the creation of a DILIGENT open-source community, however even this roadmap is to be taken at some point, it will certainly NOT:

- Rule project's development since the beginning of its lifetime, because DILIGENT has significant effort allocated to development so that it can reach a certain level of results thus give a strong push to initial development without having the drawbacks of open-source development (not to be stated here).
- Cover all development requirements of the project, since some code is expected to be under IPRs not compatible to the open-source typical licensing schemes.

Another issue is that the DILIGENT consortium is not expected to create a spin-off or some other type of organization to compete against other vendors for the commercialization of the platform. The expected result is an open platform whose value is based on how many services or contents are accessible from it. Additionally the creation of a spin-off solution would imply the extra investment for the platform to be market ready (partners investment, private funding or public funding). A deep market analysis has to verify the possibility for a ROI.

3.1.6.2.1 Building and Open Source Community

To create an open source community we should have few but important things:

- A clear communication message to attract developers (even young people other than companies or universities)
- A coherent efficient structure that give the development directions, the guideline for each developers, the instructions for integrate and build contributions and is open to emerging competences and leaders (trust & symmetry in the Linux project)
- A CVS-like restricted web site for code and experience sharing
- An easy to use collaboration platform for assigning tasks, organising work and discussing issues and challenges
- An early prototyping and strict development cycle (best practices in the open source communities reveal that the single developer ambition is exalted when he can se soon his/her contribution to be recognized and integrated in the downloadable last version)
- A strong design and an automatic integration and build process to avoid a kind of spaghetti-like project

The open community could be organized at three levels:

- Designers who participate at design phase. An initial plan should be proposed to the community, a strong and well founded plan, to be reviewed at majority and from whom a detailed development plan is derived
- Developers, who participate at the development, divided in team, that can be a DILIGENT team (eventually opened to single participation) or an external team. Teams can compete on solve a single problems or develop a single components and the decision-makers will decide exclusively on a quality-timing-performance base
- Beta-testers: who will access the testing platform to give feedback, to designer and developers. A clear benefit to Beta-tester has to be identified. Other than bug fixing feedbacks are very important the suggestion and new developments reported back by Beta-testers. They have to be taken in consideration but they risk to slow-down the project or to take the wrong direction. A clear business objective is required

In general, in an Open Community, roles have to be clear and generally recognized but more important is to well identify the benefits in participating to the community. Generally speaking the feedbacks for each person are:

- I participate at the gift-economy; mainly freakers and hacker will work for free at the sole scope to improve the world, reduce the digital divide and – most important – against any business exploitation of the Net
- I work with the gurus of that research field; that is I can give evidence to my expertise (peer recognition) or/and I can improve my skills (reputation capital)

Companies could be involved at later stage as service developers. In a DILIGENT platform acting as enablers of business a peculiar role is for companies or business people that will develop services used at certain costs by the communities. Such participation will improve the usefulness of entering DILIGENT but can even considered as a form of revenues for the platform maintenance itself. For costs coverage and ROI – at the moment – there's no a clear vision.

Finally the openness to a community will give DILIGENT the possibility to include other functionalities at the moment not considered in the DoW, i.e. the accountability, IPR protection or strong security solutions.

3.1.6.3 Attracting new communities

DILIGENT platform it's designed to enable any community that wants to share knowledge and Contents in a virtual, low cost way. But the main difference between DILIGENT and any other DL solutions (Schoolnet, Bricks, DSpace and others) is that it enable the creation (and

use) of computing and storage intensive functionalities (i.e. the classification using SVM rather than Rocchio algorithms, or the reduction in response time when managing video or complex objects).

In some ways any Content or Knowledge-based community could find benefits in moving from an internet-based solution to the DILIGENT platform at least for some features or services.

When considering other communities to be potentially involved in DILIGENT we take a two-step reasoning

- The identification of the context or the vertical market, e.g. the media
- The identification of a class of representatives and convince them in use the DILIGENT software for their community purpose, eventually acquiring (and satisfying) their special requirements in the implementation phase.

For the first step the identification could be made in two ways: studying the market to discover such context or preparing a communication strategy for the DILIGENT solution, eventually creating a new Brand, a strong message, capable to raise their interests and to distinguish the project itself from the hoped results. The message and the brand should be used in focused events for different target audience and using any media needed.

Once a community has been identified a class representative can be chosen to represent its requirements in front of the project and eventually to find new funding opportunities.

Such community cannot be treated as the open source people, nor any participant to the consortium due to economic reasons; they expect to see their requirements applied in design and they could need funding to participates at the projects meetings.

Although the opportunities can be predicted, the work on this topic will not start before the 18th month of the project. The reason is that contact with these communities should not be risked on the event of instability of DILIGENT products, thus a certain amount of time for the system to prove its concepts will be required.

It is considered that at mid-project-life point is the time to start actually considering the "promotion" of the platform as a product, i.e. not as concepts and components and findings.

Contacts will begin before this point, however actual collaboration is not expected before the 24th month of the project, a point in time when both the underlying middleware and the platform's services are expected to be at final stages of development.

3.1.7 Newsletter and Mailing Lists

Two instruments that will be exploited by the Dissemination plan are the e-Newsletter and the mailing lists.

The mailing list will be used to disseminate project-related announcements such as training events, intermediate research and development achievements, new collaborations, development of user communities and in certain cases, press releases. As subscription grows, the need may arise for thematically-oriented mailing lists, providing information related to a subscriber's domain of interest.

Visitors of the DILIGENT project web site can register to the project's "mailing list" by completing a simple electronic form. No approval will be necessary for the public mailing list, however if there is need for "limited" access mailing lists, members registration will be approved by the appropriate committee, reflecting the opinions of the project with regards to quality, privacy, copyrights etc.

An electronic newsletter will be released on a quarterly basis beginning at the project's anniversary date (September 2005). The e-newsletter may highlight the most important news announcements that were released via the mailing list during the corresponding

period. The e-newsletter will also communicate the DILIGENT project's agenda in the quarter to follow.

Year 1

Production of content will be on an as-needed basis during Year 1. Information should arrive from all project participants to be quickly distributed to the WP4.2 mailing list. The WP4.2 Leader will then assign production of the content to the most appropriate or knowledgeable workpackage participant. Prior to the release of any mail, the author of the content must send the item to the SC for approval prior to distribution.

A dedicated team from CNR, ERCIM and UOA will be created in months 6-12, including any other project volunteers. This team will further define the process for production of the mailing lists and newsletters in the last 24 months of the project.

Years 2-3

An electronic newsletter will be released on a quarterly basis beginning at the project's anniversary date (September 2005). The e-newsletter may highlight the most important news announcements that were released via the mailing list during the corresponding period. The e-newsletter will also communicate the DILIGENT project's agenda in the quarter to follow.

As for the first year of the project, any-and-all content must be approved by the WP4.2 Leader and the SC prior to release.

3.1.8 Press releases

Press releases are an essential tool for the dissemination of project activities and results. Press releases will be produced as newsworthy events arise and on a rotating basis during Year 1 of the project (the first press release will be produced by ERCIM in order to announce the joint DELOS-DILIGENT-EGEE training activity taking place in Athens on April 16,2005). As for the e-newsletter and the mailing list, a dedicated team from CNR, ERCIM and UOA will be created in months 6-12, including any other project volunteers. This team will further define the process for production of press releases in the last 24 months of the project.

Prior to the distribution of any press release to journalists, it must be unanimously approved by the WP4.2 participants, and any other concerned partner, for accuracy of information as well as strict compliance with the "EU Visibility Guidelines for external actions", Section 3.1 Press Releases.

3.1.9 Web-site Maintenance

The platform chosen for the DILIGENT project website (www.DILIGENTproject.org) was selected because it facilitates contribution from all users within the consortium as well as outside of it.

Nevertheless modification and addition of content is not uncontrolled. The platform provides appropriate mechanism to support controlled editing and publishing of the content and limited structural management.

The main responsible for managing the Web site, is the Administrator. This does not imply that the same person / organization is responsible for providing and adding the content. Consortium members are the main source of information and the ones responsible for adding content. A certain sub group of partners that currently are involved in WP4.2 are the ones to approve content or revise the structure of the site (e.g. by reorganizing content,

constructing a new site map, including new functionality etc) under appropriate admission from the administrator.

The following paragraphs present the current status in the policy under which various aspects of the Web site get handled.

Content Addition

The website becomes dynamic and "global", covering all aspects of the DILIGENT project. The procedure for content addition is as follows:

- (Administrator issues regular reminders to DILIGENT members to add content)
- Administrator regularly reviews the list of registered users, modifying status of the user if necessary
- User connects to the website
- User logs in
- User clicks on an icon next to the item he/she would like to modify or add content to
- User enters content
- User "checks in" items
- Administrator (ERCIM) receives notice of content modification/addition
- Administrator approves or refuses modification/addition

Deliverables

Any deliverable that is given the status of "Public" will be made available in PDF format on the website by the Administrator (MS Word version of the same document are available on the BSCW).

Structure

Structure and configuration of the website is modified upon recommendation by partners, or as needed by the Administrative Co-ordinator to facilitate periodic reporting.

3.2 Identified Audience per Activity Class

3.2.1 Projects

Collaboration with other EU funded projects is a major target of the dissemination plan of DILIGENT. Working meetings will be the main instrument for collaboration with these parallel running projects, and it is expected that knowledge and experience will be freely flow among parties. In some cases there are clear opportunities for exchange of technology (software) or even common use of resources for maximizing the quality of the results and minimizing the costs.

The following is the introductory list of projects that will most probably be collaborating with DILIGENT during the project's common lifetime. These projects have already been contacted through common participants, thus collaboration has been initiated at a minimal cost for both parts.

DILIGENT will not limit it's opportunities for collaboration with EU funded projects to the ones linked through common participations. However for the time being it is a decision that DILIGENT will mostly passively observe other projects in order to identify opportunities and not actually contact them in an official manner. There are three main reasons for this:

- Avoid the trap of creating an image of DILIGENT as a "concept" rather than as a robust application or solution.
- Minimize the risk of engaging to partnerships that might not architecturally fit DILIGENT.
- Minimize the risk of engaging to partnerships that the other party might not fulfil its promises (i.e. related to maturity of other projects).
- Maximize the benefit / cost ratio of these collaboration by evaluating various alternatives and selecting the most suitable ones.

3.2.1.1 EGEE

Interaction with EGEE is not being handled as part of the Dissemination Plan. DILIGENT is tightly bound to EGEE project thus a separate workpackage (WP3.1) deals with the close collaboration. On the one hand, this will help DILIGENT to achieve its functional and operational targets, on the other hand, it will provide feedback about the state and capabilities of the middleware to EGEE, in order to further improve its characteristics (functional and non-functional ones).

Scientific Co-ordinator: Fabrizio Gagliardi, CERN, email: fabrizio.gagliardi@cern.ch (*Note: Dr. Gagliardi is also an Executive Committee member of the DILIGENT project.*)

3.2.1.2 DELOS

DELOS is a Network of Excellence on Digital Libraries, which shows quite significant opportunities for collaboration.

These opportunities among others include:

- Promotion of DILIGENT findings for adoption by scientific communities and industry.
- Forwarding of DILIGENT raised issues on the Digital Libraries, to communities specializing on the sector.
- Carrying of up-to-date findings in Digital Libraries to the DILIGENT platform.
- Dissemination of DILIGENT produced tools and knowledge.

Project's relevance is mainly on the following topics:

- DELOS WP 1: Digital Library Architecture Cluster, service architecture, peer-to-peer and grid architecture for DL.
- DELOS WP 4: Personalization

Instruments for collaboration will be meetings and organization of commonly held lectures, training courses and workshops.

Current specific planned actions include:

- Participation to DELOS summer school.
- Common organization of conference panels / workshops.
- Organization of common training sections.
- Mutual exploitation of facilities / infrastructure / resources for demonstrational and testing reasons.

The CNR-ISTI and the University of Athens are two partners that form the gateway between the two projects. Furthermore, the DILIGENT Co-ordinator ERCIM is also serving as Administrative Co-ordinator for the DELOS project.

Scientific Co-ordinator: Costantino Thanos ISTI, CNR, email: costantino.thanos@isti.cnr.it

3.2.1.3 SeeGrid

Investigation of the SeeGrid project showed great opportunities for collaboration:

- Provide the DILIGENT platform as an application to be hosted on top of the Infrastructure, by taking all precautions that compatibility will be maintained.
- Reuse of search components developed in SeeGrid by DILIGENT platform for various classes of functionality. Concrete examples can be the Text Categorization component of SeeGrid or the Web search engine it provides.
- Link DILIGENT to SeeGrid by using the SeeGrid search services as external sources, through appropriate adaptors.

At this point a link has already been established between UoA and GRNET and the actual chances for collaboration are under discussion.

Scientific Co-ordinator: Jorge-A. Sanchez-Papaspiliou, Greek Research and Technology Network (GRNET), email: sanchez@grnet.gr

3.2.1.4 CoreGRID

CoreGrid is an FP6 Network of Excellence focussing on large scale distributed Grid and peer-to-peer technologies and is the only network uniting these domains. The NoE includes 42 participating institutes, began in September 2004 and has a duration of four years.

Opportunities for collaboration include:

- Exploit state-of-the-art Grid community findings in the DILIGENT platform.
- Promote the solving of Grid related issues met in DILIGENT.
- Promote the adoption / standardisation of DILIGENT findings.

Furthermore, the DILIGENT Co-ordinator ERCIM is also serving as Administrative Co-ordinator for the CoreGrid project. The focused dedication of ERCIM's activities on the coordination of these two projects greatly facilitates the organization of joint events. One strong possibility for the future will be a training seminar conducted by DILIGENT participants at a CoreGrid Network event.

Scientific Co-ordinator: Thierry Priol, INRIA, email: thierry.priol@irisa.fr

3.2.1.5 The VOICE

The VOICE is an ESA study financed by the Agency's General Study Programme, started March 2004.

THE VOICE can be considered as a project of relevance to DILIGENT since its user requirements and technology could perfectly fit a sort of 'eCollaboration side' of DILIGENT. Actually, why not integrate in the DILIGENT infrastructure eCollaboration tools allowing users of the same virtual organisation to work in cooperation, especially as required by the ImpECt test-bed scenario (e.g. automatic reports definition and maintenance)? All the three ways of eCollaborating, direct synchronous, direct asynchronous, indirect are acceptable according to the DILIGENT users expectations and the possibility to set up a collaborative environment, adaptable to virtual organisations specific needs, should be provided as a DILIGENT service.

We can define a very clear collaboration with the THE VOICE project in the sense that the platform which is being created within the THE VOICE project could be used as well for doing some 'tests' for DILIGENT. Moreover, within THE VOICE we have defined 3 prototypes and we can (at no additional cost) include another prototype.

The actual form of collaboration is to be discussed as soon as DILIGENT delivers materialized output.

The VOICE is funded by ESA, which is one of the User Communities included in the DILIGENT consortium.

3.2.1.6 BRICKS

BRICKS project builds a world wide multidisciplinary virtual community around the sharing of knowledge and services for management and exploitation of Digital Content. Although not in the field of Grid computing, BRICKS can provide DILIGENT with valuable information on content management and requirements especially in the cultural area. BRICKS is mostly considered as a potential user community to be contacted at a later stage of the DILIGENT project, although new opportunities might rise after the initial discussions.

University of Athens, CNR-ISTI, Engineering, and FhG-IPSI are all common participants of DILIGENT and BRICKS projects.

3.2.1.7 PENG

PENG stands for "PErsonalised News content programming". This is a Framework 6 STREP project placed under the thematic area of "Cross media content for leisure and entertainment". The project started in September 2004 and has a duration of 24 months. PENG and DILIGENT have a common participant, USG.

The PENG project aims at defining a flexible, personalised and context-aware system for the gathering, filtering, retrieval and presentation of multimedia news for news professionals (e.g. journalists and editors), with a view of making the system also available later for general users.

Although PENG is based on traditional technologies (not GRID), we envisage a number of possible opportunities for collaboration. This is related to the large repositories that the PENG system will have to have access to, containing large amount of multimedia material related to the news domain. Currently large TV and Radio broadcasting corporation have an incredible amount of material in their archives, which is only accessible through metadata. An analysis of the requirements carried out in the first few months of PENG highlighted the need to enable distributed content-based access to these archives, with a view not only to enable to exploit them in a more complete way internally to the corporation, but also to make content available to customers outside the corporation. PENG will try to address only partially some of these issues. Given the size and characteristics of these archive only the technologies developed in the context of DILIGENT will make that possible and cost effective.

The relevance of PENG to DILIGENT is mainly spotted in WP4, which manages phases related to distributed information retrieval, including resource discovery, selection and results fusion.

PENG has a common participant with DILIGENT which is USG.

3.2.1.8 REVEAL-This

REVEAL-THIS stands for Retrieval of Video And Language for The Home user in an Information Society". This is a Framework 6 STREP project placed under the thematic area of "Cross media content for leisure and entertainment". The project started in November 2004 and has a duration of 30 months. USG is one of the partners involved in REVEAL-THIS.

REVEAL-THIS addresses a basic need underlying content organisation, filtering, consumption and enjoyment by developing content programming systems that will help European citizens keep up with the explosion of digital content scattered over different platforms, media and different languages. In particular, it will address the filtering, organization, and retrieval of information from "content integrators", commercial entities that will be a domain specific link between the consumer and the content providers. Content aggregators will push to the consumer information relevant to an information need expressed in a profile, using advanced content-based indexing technologies. Consumers will

also be able to pull information relevant to a specific short-lived need. Much of the information to be dealt with will be of multimedia nature (audio-visual). This information will be indexed on the fly by a number of detectors based on a number of different technologies: cross-language indexing, automatic translation, image recognition, face recognition, speech recognition, textual information filtering and categorization. All these detectors are based on traditional (not GRID) technologies and will be subjected to the limitation of current processing power on traditional machines and state of the art in information processing models. While DILIGENT might not be suitable to an on-the-fly content-based indexing of multimedia information, DILIGENT technologies might be exploited in a deeper off-line indexing carried by the content integrator in order to reuse and re-propose indexed material.

Project's relevance to DILIGENT is on cross-media content analysis and indexing, using distributed information retrieval technologies, located in WP 4.

PENG has a common participant with DILIGENT which is USG.

3.2.2 Various task forces

Even from its early steps, DILIGENT shows the potential to reuse technologies and knowledge managed by various initiatives and taskforces in the areas addressed by the project. As the project becomes more technologically stable, the need for contacting these initiatives will be evaluated and there are cases that common events will be organized. It is expected that these events will be either working or brainstorming meetings in order to face specific challenges, however other opportunities might be considered on a per case basis.

Activities of this class have already been initiated by DILIGENT and there has already been a brainstorming meeting held in collaboration with Condor development team leader, Miron Linvy.

3.2.3 User communities

Currently, the DILIGENT consortium includes 2 quite important user groups, formed by three organizations: ESA, SNS and RAI.

SNS, with ARTE scenario, represent a Culture focussing community while ESA and the ImpECt scenario, are good examples of the eScience area where several technologies and competences are applied to solve an environment related challenging issues.

RAI Educational, represents the broadcasting industry, while its role within one of the two scenarios is constrained to content provider.

The ARTE community has been aggregated around a financed project from Italian ministry of education and research (MIUR). From the requirements described in the related deliverable it's clear that they have an internal fixed organization with roles and duties, very far from the unconstrained and open concept of the community. This organization will become virtual when acting for the preparation of conferences and/or education digital artifacts.

The ImpECt scenario deals with the implementation of Barcelona convention. This is a Mediterranean climate change appointment, where any environmental researcher or institution can be involved in environmental safeguard. In this scenario we have a typical community whose interests is more general than that of a focused research team that meets – physically -to exchange knowledge and research results. DILIGENT is a supplementary and preliminary virtual meeting point where each participant without any a-priori role can access the information and derive new knowledge or reports.

The RAI Educational is seen as a user in the DILIGENT context but is not really related to any community. It's indeed an industry with some products (videos and TV spaces)

interested in address any community for business (selling products images or videos for educational or research aims).

Although not fully conforming to the term "user communities", the ones to be supported by the two DILIGENT scenarios will be the only ones to get involved to DILIGENT at this stage of the project. However it is envisioned that this will change when the project begins producing technology, i.e. materialized outcome. Even at this early stage of the project Scientific and Project managers received at least 8 requests from potential observers asking to:

- Use DILIGENT archives;
- Include DILIGENT presentation in their dissemination events
- Participate in design
    - Promote their own solution on specific topics
- Joint development based on a specific grid-middleware
- Joint development on a specific theme
- Use of DILIGENT platform for the organization objectives

These and other requests will be collected in order to be registered, initially as target of the dissemination activity and, later on, as target of the demonstration and training activities. However the registered links will be activated as DILIGENT technical work progresses and delivers concrete output.

3.3 Targeted Events and Media

The following paragraphs enumerate initial plans for specific activities and targeted media. Moreover, detailed opportunities and times are shown in appendices.

3.3.1 Conferences & Workshops

Two initially targeted activities in the area of conferences and workshops:

- Panel on "Digital Libraries on top of the Grid" at the ECDL Conference and the Global Grid Forum (First year of the project)
- Proposed ECDL Panel "DL over the Grid: Heaven or Hell" (to be coordinated by Donatella Castelli)

3.3.2 Publications

Targeted publications refer to Journals, refereed conferences and scientific surveys and essays. In general they fall in three main categories: Digital Libraries, Grid and Distributed Computing and Data and Information Management. An indicative list of specific targets is listed below:

Digital Libraries

- ECDL - European Conference on Research and Advanced Technology for Digital Libraries
- ICADL - International Conference of Asian Digital Libraries
- JCDL - Joint Conference on Digital Libraries
- International Journal on Digital Libraries
- DLIB Magazine

Grid and Distributed Computing

- GlobusWORLD
- Supercomputing Conference
- IEEE International Symposium on High Performance Distributed Computing
- Euro-Par - International Conference on Parallel and Distributed Computing
- GSEM – International Conference on Grid Services Engineering and Management

Data and Information Management

- ICDE - IEEE International Conference on Data Engineering
- VLDB - International Conference on Very Large Data Bases
- EDBT - International Conference on Extending Database Technology
- ACM SIGMOD/PODS - ACM Special Interest Group on Management of Data
- Information Processing and Management
- Journal of the ASIST
- ACM Transactions on Information Systems
- Information Retrieval
- ACM SIGIR - Conference on Research and Development in Information Retrieval
- CM CIKM – Conference on Knowledge and Information Management
- ACM SAC – Symposium on Applied Computing
- Information Systems
- Journal of Information Science

3.3.3 Lectures & Seminars

DILIGENT will organize lectures in thematically related educational efforts. These will be held after the first 10 months of the project, in order for specific technological progress to be made by the project.

The first specifically targeted activity of this class is the organization of a series of lectures within the International Summer School on Grid, in the DELOS Summer School.

GGFs summer grid school will be a targeted event for the 2nd and 3rd year of DILIGENT project.

4 DISSEMINATION MEANS & MATERIAL

4.1 Instruments

4.1.1 Web site

The website of the project is intended to be the main dissemination channel for the DILIGENT project (http://www.DILIGENTproject.org/). It will serve 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.

4.1.2 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.

4.1.3 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 disciple 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".

4.1.4 Press Releases

Summaries of newsworthy events or results achieved by the DILIGENT consortium will form the content of press releases. The press releases will be sent to journalists in all European Countries and will be written and distributed in a timely manner.

4.2 Material

4.2.1 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"* [2] 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)

4.2.2 DILIGENT Dissemination materials

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).

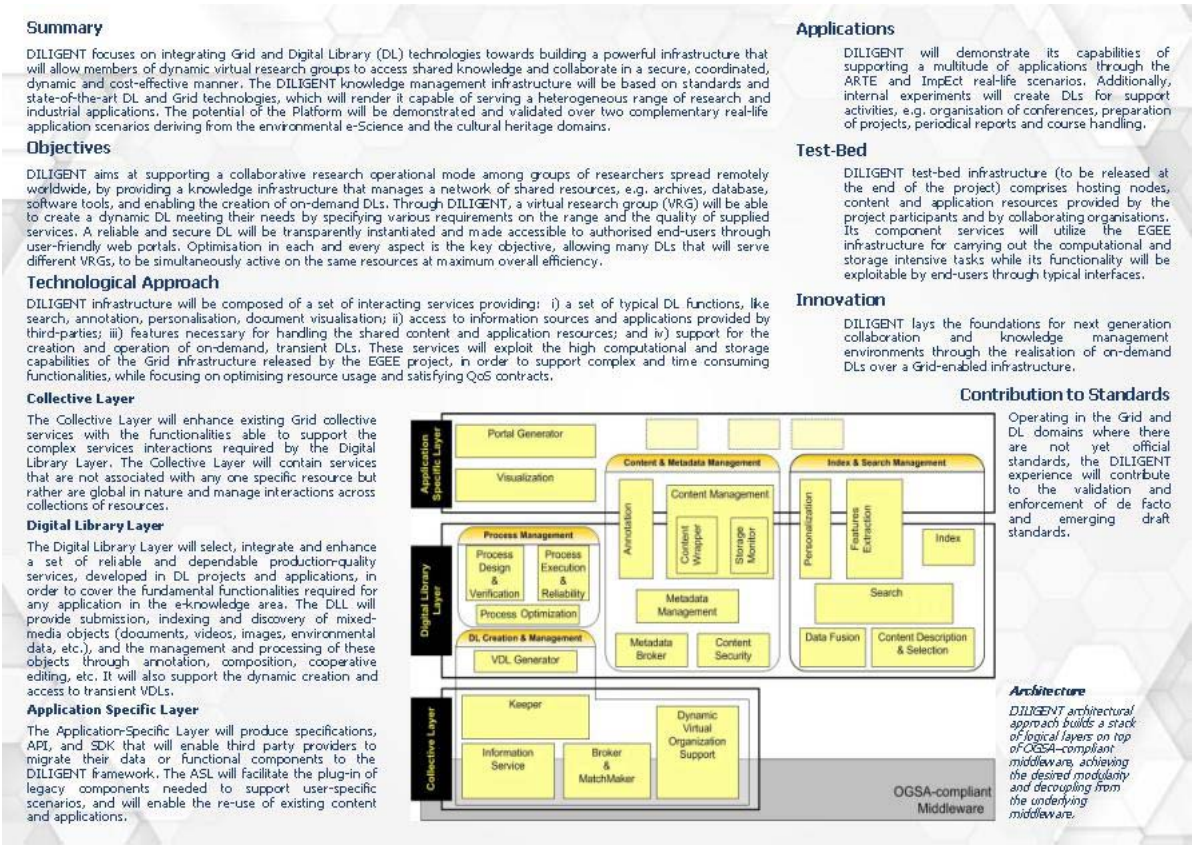
- Flyer: a two-sided three-fold presentation of the project consortium, objectives and scope (horizontal A4)
- Brochure: a typical presentation of the project on a two-sided A4 form, which can be easily included in partners' presentations and documents, where the three-fold flyer cannot fit

- 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.

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.

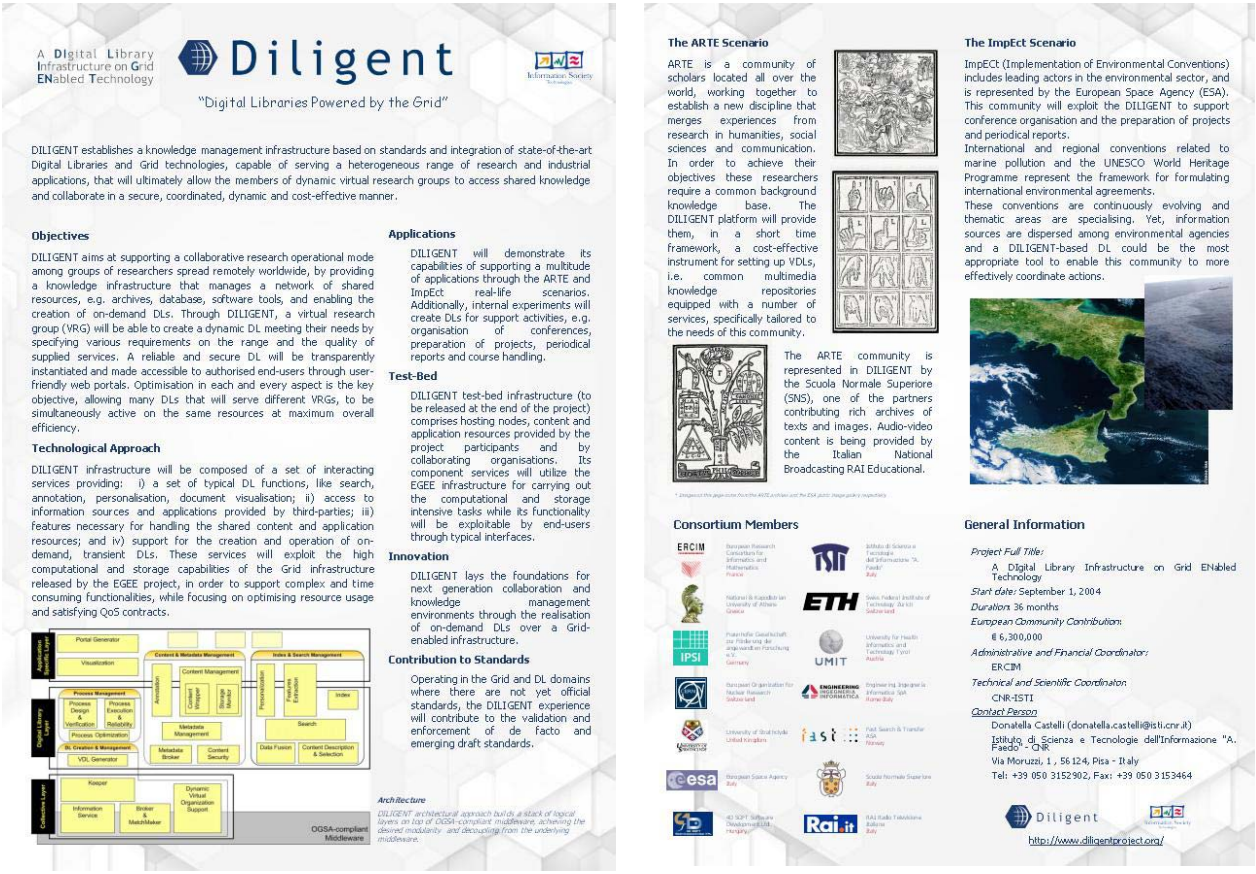
Contribution to Standards

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 OGSA-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

Diligent

"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.

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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.

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

ERCIM, ISTI, ETH, IPSI, UMIT, ESA, Rai.it

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

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Diligent

http://www.diligentproject.org/

Figure 4: DILIGENT brochure

Figure 5: DILIGENT half text poster

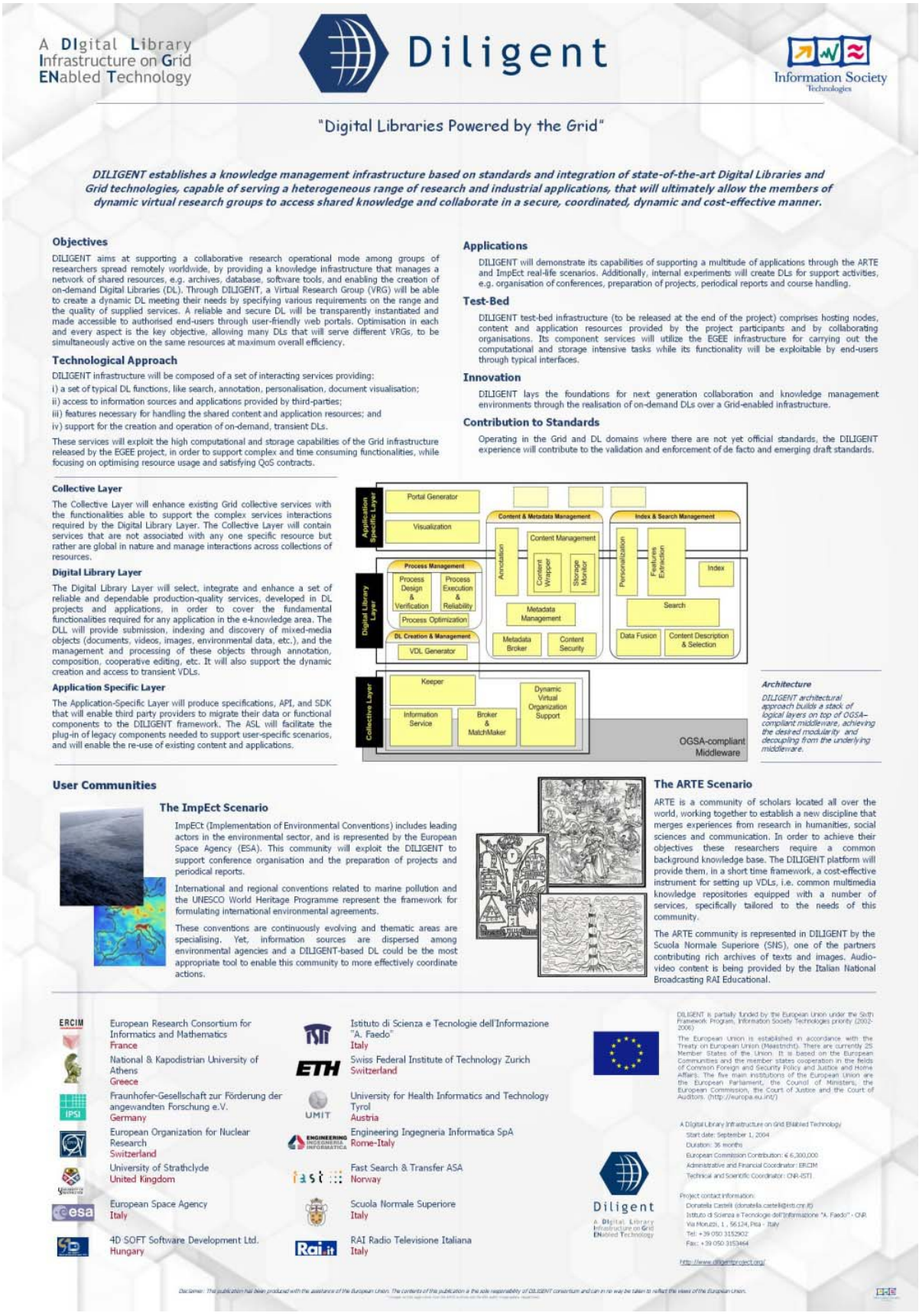

Figure 6: DILIGENT full text poster

4.2.3 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

4.2.4 Deliverable Template

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

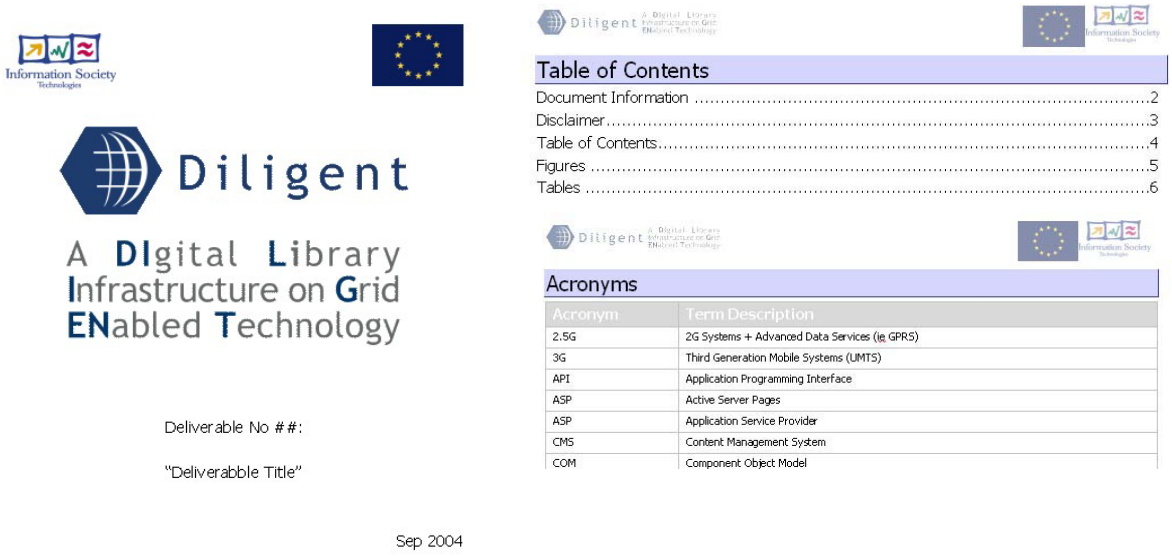

Figure 8: DILIGENT Official Deliverable Samples

5 CONCLUSIONS

In the already presented dissemination plan, we have tried to capture the majority of the DILIGENT activities that even entirely or partially fall within the area of dissemination and liaison activities. This attempt has proven to be quite hard to accomplish, not only due to the range and number of opportunities but also because of the nature of the described activities. Significant strategic decisions had to be taken in order for the opportunities to be cleared out and the action plan to be made concrete.

DILIGENT dissemination activities have been clearly linked to the progress of the technical work carried out by the project and various rules have been settled in order to make the best out of the various opportunities, for all the parties (DILIGENT and externals).

The bottom line is that the DILIGENT dissemination plan 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.

Additionally, some dissemination activities might require significant effort allocation, which might be beyond the project's capability to maintain it. Such issues cannot be initially estimated due to the nature of the corresponding activities and their dependency on the interest that the DILIGENT project and platform will cause to World.

A major measure towards dealing with these issues will be the establishment of links with other initiatives at minimal cost, via exploiting common participations and other strong relations of external parties to the DILIGENT consortium, or individual members.

Finally there is a clear need for continuous management, monitoring and evaluation due to the range of the activities, the risk of raising some hard to handle costs and the direct dependencies to the progress of DILIGENT technical work. Moreover, many of the opportunities mentioned as part of the plan require a per-case evaluation and activation of relevant DILIGENT mechanisms.

Appendix A. Targeted Events

A.1. Meetings, Conferences, and Workshops (June 2005 – Dec 2005)

June

- School for Scanning: Building Good Digital Collections, 1 - 3 June 2005, Boston, Massachusetts, USA
- Society for Scholarly Publishing Annual Meeting, 1 - 3 June 2005, Boston, Massachusetts, USA
- Canadian Association for Information Science/L'association canadienne des sciences d l'information (CAIS/ACSI) 2005, 2 - 4 June 2005, London, Ontario, Canada
- CoLIS 5 Context: Nature, Impact and Role (Fifth International Conference on Conceptions of Library and Information Science), 4 - 9 June 2005, Glasgow, United Kingdom
- Putting Knowledge to Work; SLA 2005 Annual Conference, 4 - 9 June 2005, Toronto, Canada
- EDUCAUSE Southeast Regional Conference, 6 - 8 June 2005, Atlanta, Georgia, USA
- The 25th International Conference on Distributed Computing Systems (ICDCS), 6 - 9 June 2005, Columbus, Ohio, USA
- Joint Conference on Digital Libraries (JCDL 2005), 7 - 11, Denver, Colorado, USA
- 9th ELPUB conference, 8 - 10 June 2005, Leuven-Heverlee, Belgium
- Freedom and Information, 15 - 17 June, 2005, Loughborough, United Kingdom
- 4th International Conference on eLiteracy, 15 - 17 June, 2005, Glasgow, Scotland
- Canadian Library Association Conference 2005: Rediscover the Library Movement, 15 - 18 June 2005, Calgary, Alberta, Canada
- ACH/ALLC Conference 2005, 15 - 19 June 2005, Victoria, British Columbia, Canada
- 5th Annual Symposium on Intellectual Property - Pirates, Thieves and Innocents: Perceptions of Copyright Infringement in the Digital Age, 16 - 17 June 2005, Adelphi, Maryland, USA
- 2005 International Conference on Digital Archive Technologies (ICDAT2005), 16 - 17 June 2005, Taipei, Taiwan
- Informing Science + Information Technology Education (I^nSITE), 16 - 19 June 2005, Flagstaff, Arizona, USA
- First International Conference on e-Social Science, 22 - 24 June 2005, Manchester, United Kingdom
- American Library Association 2005 Annual Conference, 23 - 29 June 2005, Chicago, Illinois, USA
- Intelligence Tools: Data Mining, Visualization (IDV 2005), 27 - 28 June 2005, Philadelphia, Pennsylvania, USA
- E Society 2005 : IADIS (International Association for Development of the Information Society) International Conference, 27 - 30 June 2005, Qawra, Malta
- Institute for Computer Policy and Law, 28 June - 1 July 2005, Ithaca, New York, USA

July

- FIS2005: Third Conference on the Foundations of Information Science, 4 - 7 July 2005, Paris France
- LIBER 34th Annual Conference 2005 : Strategic Choices, Current Thinking 5 - 9 July 2005, University Library of Groningen, The Netherlands
- 7th ISKO-Spain Conference, 6 - 8 July 2005, Barcelona, Spain

- 2005 IASL Conference: Information Leadership in a Culture of Change, 8 - 12 July 2005, Hong Kong, China
- 2005 IEEE International Conference on Web Services (ICWS 2005), 12 - 15 July 2005, Orlando, Florida, USA
- ECAR 2005 Summer Symposium, 13 - 15 July 2005, New Castle Island, New Hampshire, USA
- 3rd International Conference on Education and Information Systems: Technologies and Applications (EISTA 2005), 14 - 17 July 2005, Orlando, Florida, USA
- 2005 International Conference on Digital Archive Technologies (ICDAT2005), 16 - 17 July 2005, Taipei, Taiwan
- Digital Preservation Management: Implementing Short Term Strategies for Long Term Problems 17 - 22 July 2005, Ithaca, New York, USA
- Workshop in electronic scholarship, 18 - 22 July 2005, Charlottesville, Virginia, USA
- 7th International IEEE Conference on E-Commerce Technology 2005, 18 - 22 July 2005, Munchen, Germany
- 5th International Conference On Knowledge, Culture And Change In Organisations , 19 - 22 July 2005, Rhodes, Greece
- Syllabus 2005, 24 - 28 July 2005, Los Angeles, California, USA
- American Library Association Annual Conference, 25 - 29 July 2005, Chicago, Illinois, USA
- Fifth International Conference on Web Engineering (ICWE2005), 25 - 29 July 2005, Sydney, Australia

August

- Wikimania - the first international Wikimedia conference, 5 - 7 August 2005, Frankfurt am Main, Germany
- World Library and Information Congress: 71st IFLA General Conference and Council: Libraries - A voyage of discovery, 14 - 18 August 2004, Oslo, Norway
- Society of American Archivists Annual Meeting, 15 - 21 August 2005, New Orleans, Louisiana, USA
- 28th Annual International ACM SIGIR, 15 - 19 August 2004, Salvador, Brazil
- 16th International Conference on Database and Expert Systems Applications DEXA'2005, 22 - 26 August 2004, Copenhagen, Denmark
- EGOV05 : International Conference on E-Government 2005, 22 - 26 August 2005, Copenhagen, Denmark

September

- DRH 2005: Digital Resources for the Humanities, 4 - 8 September 2005, Lancaster, United Kingdom
- ESSIR 2005: European Summer School in Information Retrieval, 5 - 9 September 2005, Dublin, Ireland
- neXt 2005: ALIA National Library and Information Technicians Conference, 6 - 9 September 2005, Sydney, Australia
- Hypertext 2005, 6 - 10 September 2005, Salzburg, Austria
- DC-2005: International Conference on Dublin Core and Metadata Applications 12 - 15 September 2005, Madrid, Spain
- ISMIR 2005 (6th International Conference on Music Information Retrieval), 11 - 15 September 2005, London, United Kingdom
- DC-2005: International Conference on Dublin Core and Metadata Applications 12 - 15 September 2005, Madrid, Spain

- Joint Workshop on Electronic Publishing (sponsored by Delos, SVEP and ScieCom), 14 - 15 September 2005, Lund, Sweden
- ICINCO 2005 - International Conference on Informatics in Control, Automation and Robotics, 14 - 17 September 2005, Barcelona, Spain
- XVIth International Conference of the Association for History and Computing, 14 - 17 September 2005, Amsterdam, The Netherlands
- Maximising Data Value Data Use and Re-Use, 15 - 16 September 2005, Newland Park, Buckinghamshire, United Kingdom
- Fifth International Congress on Peer Review and Biomedical Publication, 15 - 17 September 2005, Chicago, Illinois, USA
- Libraries Without Walls 6: Evaluating the Distributed Delivery of Library Services, 16 - 20 September 2005, Lesvos, Greece
- 9th European Conference on Research and Advanced Technologies for Digital Libraries, 18 - 23 September 2005, Vienna, Austria
- WebSearch University, 19 - 20 September 2005, Arlington, Virginia, USA
- ICHIM 2005: Digital Culture and Heritage, 21 - 23 September 2005, Paris, France
- IWAW 05: International Web Archiving Workshop and Digital Preservation, 22 - 23 September 2005, Vienna, Austria
- The 33rd Research Conference on Communication, Information and Internet Policy, 23 - 25 September 2005, Fairfax, Virginia, USA
- Digital Futures: From Digitization to Delivery, 26 - 30 September 2005, London, United Kingdom
- ETD 2005: 8th International Symposium on Electronic Theses & Dissertations, 27 - 30 September 2005, Sydney, Australia
- 12th European Conference on Information Technology Evaluation (ECITE), 29 - 30 September 2005, Turku, Finland
- LITA National Forum 2005, 29 - September - 2 October 2005, San Jose, California, USA
- DCC (Digital Curation Centre) Conference 2005, 29 - 30 September 2005, Bath, United Kingdom
- Southeastern Scholarship Conference on e-Learning (SSCEL), 30 September - 1 October 2005, Macon, Georgia, USA

October

- International Conference on Open Access within the tradition of the Berlin Declaration, 5 - 7 October 2005, Golm, Germany
- The 6th International Conference on Web-Age Information Management, 11 - 13 October 2005, Hangzhou, China
- Evolution of evidence: global perspectives on linking research with practice, 16 - 19 October 2005, Brisbane, Australia
- 2005 International Symposium on Wikis, 17 - 18 October 2005, San Diego, California, USA
- Access 2005, 17 - 19 October 2005, Edmonton, Alberta, Canada
- EDUCAUSE Annual Conference 2005, 18 - 21 October 2005, Orlando, Florida, USA
- WWW Internet 2005: IADIS (International Association for Development of the Information Society) International Conference, 19 - 22 October 2005, Lisbon, Portugal
- **Innovations in Scholarly Communication (OAI4)**, 20 - 22 October 2005, Geneva, Switzerland (Web site not yet available.)
- Internet Librarian International 2005, 24 - 26 October 2005, Monterey, California, USA

- Sparking Synergies: Bringing Research and Practice Together @ ASIST '05, 28 October - 2 November 2005, Charlotte, North Carolina, USA

November

- Digits Fugit! Preserving Knowledge into the Future: Museum Computer Network 2005 Conference, 3 - 5 November 2005, Boston, Massachusetts, USA
- WISIS: World Summit on the Information Society: Phase 2, 16 - 18 November 2005, Tunis, Tunisia.
- 11th Sloan-C International Conference in Asynchronous Learning Networks (ALN), 17 - 19 November 2005, Orlando, Florida, USA
- Ensuring Long-term Preservation and Adding Value to Scientific and Technical data (PV 2005), 21 - 23 November 2005, Edinburgh, United Kingdom
- The Fifth IEEE International Conference on Data Mining (ICDM 2005), 26 - 30 November 2005, New Orleans, Louisiana, USA
- Online Information 2005, 29 November - 1 December 2005, London, United Kingdom
- AMIA (Association of Moving Image Archivists) 2005 Conference, 30 November - 3 December 2005, Austin, Texas, USA

December

- Open Access to Grey Resources, 5 - 6 December 2005, Nancy, France.
- Second International Conference on Technology, Knowledge, and Society, 12 - 15 December 2005, Hyderabad, India
- 8th International Conference on Asian Digital Libraries: ICADL 2005, 12 - 15 December 2005, Bangkok, Thailand

A.2. Grid Conferences, Symposia, Workshops and Journals

- IEEE/ACM International Workshop on Grid Computing (GRID2005) (14 November 2005) Seattle WA, USA. Submission deadline: 27 May 2005
- IASTED International Conference on Parallel and Distributed Computing and Systems (14-16 November 2005) Phoenix AZ, USA. Submission deadline: 1 July 2005
- International Conference on e-Science and Grid Technologies (5-8 December 2005) Melbourne, Australia. Submission deadline: 15 August 2005
- Special Issue on Agent-based Grid Computing (December 2005) International Journal of Applied Intelligence. Submission deadline: 31 March 2005
- Workshop on State-of-the-art in Scientific and Parallel Computing (PARA) (18-21 June 2006) Umeε, Sweden. Submission deadline: 31 January 2006
- Special Issue on Grid-Based Technologies Applied to Education (February 2007) IEEE Transactions on Education. Submission deadline: 30 September 2005

A.3. Other Events

- Open Source Geospatial '05 – MUM3/EOGEO June 16-18 Minneapolis, USA (http://mapserver.gis.umn.edu/mum/mtg2005.html)
- Workshop EOGEO 2004 June 23-25 2004 London (http://www.eogeo.org/Workshops/EOGEO2004/)
- ICADL 2005 12-15 December 2005 Bangkok (http://www.icadl2005.ait.ac.th/)
- Ohio Digital Commons for Education (ODCE) 2005 Conference

Appendix B. Initial Liaison Candidate Projects

B.1. CoreGrid

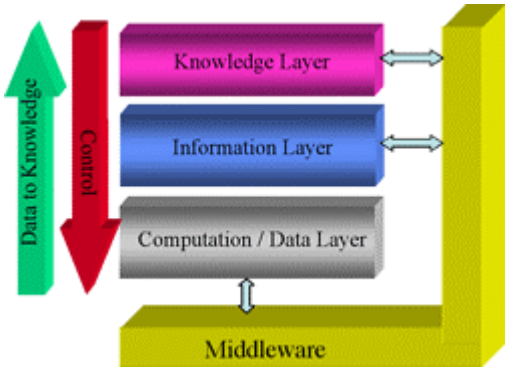

Figure 9: CoreGRID vision of the Next Generation GRID

CoreGRID (http://www.coregrid.net/) project has a duration of four years and it has started since September 1st, 2004. It aims at building a virtual European-wide Research Laboratory that will achieve scientific and technological excellence in the domain of large scale distributed, GRID and Peer-to-Peer technologies aiming at realizing our vision of what should be a GRID infrastructure. This vision of a new generation GRIDs architecture integrates in a seamless way the existing GRID and other emerging architectures such as P2P (peer-to-peer) taking in W3C (world-wide-web consortium) and other relevant standardization bodies concepts and standards.

It is the primary objective of the CoreGRID Network of Excellence to build solid foundations for GRID and Peer-to-Peer on both a methodological basis and a technological basis and to stay at the forefront of the Excellence. This will be achieved by structuring research activities, leading to integrated research among experts from the relevant fields, and more specifically distributed systems and middleware, programming models, algorithms and tools and environments. Our long-term vision of the GRID (10 years) requires that CoreGRID must be sustainable and must evolve by itself when European funding will cease.

To comply with this long-term objective, the CoreGRID Network defines and conducts a joint programme of activities (JPA) in order to integrate and co-ordinate the ongoing research activities of the major European research teams in the field of Grid and P2P technologies for the purpose of developing the Next Generation GRID. These research teams bring both their high-level expertises in the particular areas and also their own capabilities in influencing their national programmes in Grid and P2P technologies allowing thus a better long-term integration (in the sense given by the EC). CoreGRID participants are involved in 15 Grid-related national programmes within which they have a key role (for example, members of the scientific committees, programme directors, etc.) in the definition of the research agenda.

The implementation of an integrated programme of this type, as it is briefly described in this section, will make the accomplishment of our grand vision for Next Generation GRID feasible. This programme has two main objectives: excellence and integration. An ambitious programme for jointly executed research activities by the best teams in Europe and a set of integrated activities will be implemented to reach these two objectives.

The research programme that will be undertaken within CoreGRID is structured around six complementary research areas as listed below. These areas have been selected on the basis of their strategic importance, their research challenges and the ability to gather at least three different research teams from three different countries. This latter constraint was imposed to ensure a real integration of the research carried out in Europe and to fit the goal

of a Network of Excellence as it is defined by the EC in FP6. The six research areas are as follows:

- Knowledge & Data Management: This area will focus on information and knowledge GRIDs.
- Programming Model: This area will investigate the definition of programming models for the GRID by reducing the complexity of programming GRIDs.
- System Architecture: This area will cover the study of distributed system architecture for next generation GRIDs with particular emphasis on scalable GRID services, adaptability and dependability.
- Grid Information and Monitoring Services: Next Generation GRIDs require coordination of several core services to achieve useful integration of resources provided by different resource owners.
- Resource Management and Scheduling: The management and coordination of resources in a GRID environment is a key topic for future GRIDs, which has also been identified by the NGG expert group
- Problem solving environments, tools and GRID systems: This area concerns the design of a software environment and tools for GRID systems.

B.2. The VOICE

The goal of THE VOICE project (http://www.esa-thevoice.org) is to establish a technical base for eCollaboration in the Earth Science domain: it makes possible to integrate Earth Observation (EO) derived products with products from other sources and to deliver them.

The eCollaboration can be defined as any activity performed by means of/supported by electronic tools or infrastructures, aimed at reaching a goal and possibly involving human interaction.

The eCollaboration remains a very wide topic and collaborative tools are extremely different in their functions. From the functional perspective, three different levels of collaboration are defined, mainly dependent on parameters like human involvement and time of the action:

- Direct synchronous. It's the kind of collaboration that directly involves interactions among selected actors, all participating at the same time. Participants are always active and they are personally involved in the activity process. Typical collaboration tools at this level are videoconferencing support, shared whiteboarding, instant messaging.
- Direct asynchronous. It's the kind of collaboration that directly involves interactions among selected actors who may participate at different times. Participants are personally involved in the activity process but they may be not always active. Typical collaboration tools at this level are e-mail, shared workspace support, workflow management and scheduling/calendaring tools
- Indirect collaboration. It's the kind of collaboration that may involve actors belonging to a specific group and may participate whenever they are interested in. Participants are not personally involved in the activity process but they may be active since belonging to a community involved in the process. Typical collaboration tools at this level are newsgroups and resource sharing support; also the computer-to-computer automatic collaboration is part of this level.

A Collaborative Environment is defined as an integrated infrastructure enabling some kind of eCollaboration activity: it is supposed to be quite dynamic to accomplish the different kinds of collaboration according to the specific users requirements.

The analysis on eCollaboration in Earth Science conducted in the THE VOICE revealed the need of three main eCollaboration areas: data and metadata availability & accessibility, processing, data & information delivery. Most of the user requirements were related to basic functionalities as getting easy access to the data they need, easy means to locate data in catalogues, data delivery in short time and two group of functions have been identified:

- office functions that provide the general support to the more bureaucratic functions
- product-oriented functions, directly related to the core business of providing data products

Moreover, it came up that many users use only basic Internet functions (email, ftp, we pages) while less-known functions such as instant messaging, document archives, discussion forums, concurrent versioning system are not considered at all. On the contrary, more technology-aware users push for applying the Grid technology especially in workflow management.

B.3. SeeGrid

SEE-GRID (http://www.see-grid.org/) intends to provide specific support actions to pave the way towards the participation of the SE European countries to the Pan-European and worldwide Grid initiatives. This will be accomplished through dissemination conferences and training material including cookbooks, demonstration testbeds for hands-on experience, pilot applications' adaptations to be able to use the Grid, operational and support centre schemes and organisation, and finally feasibility studies and roadmaps for the integration of the SEE Grid area to the European Research Area (ERA). The proposed initiative will try to ease the digital divide, in the Grid context, and release the scientific & productive talents of the region, to support Pan-European Grid efforts using the infrastructure provided by the Gigabit Pan-European Research & Education Network (GEANT) and the South-East European Research and Education Networking (SEEREN) initiative. This will allow participation of the targeted countries in Pan-European Grid Efforts in the immediate future. SEE-GRID has the following objectives:

- Create a human network in the area of Grids, eScience and eInfrastructures in SEE.
- Extend support to Pan-European Grid efforts (e.g. GRIDSTART, DAMIEN, DATAGRID, EUROGRID, CROSSGRID, DATATAG, EGEE, etc) in the SEE region.
- Co-operate with GEANT, SEEREN initiatives and exploit their infrastructures and results in the region.
- Integrate selected Grid sites into a regional pilot testbed and demonstrate selected applications within the Pan-European Framework.
- Promote awareness in the region regarding Grid developments.
- Ease the digital divide and bring South-Eastern European Grid communities closer to the rest of the continent.
- Establish a dialogue at the level of policy developments for research and education and provide inputs to the agenda of national governments and funding bodies.
- Promote regional and international collaboration in the SEE area and with neighbouring countries.

SEE-GRID's work packages are:

- WP1: Project administrative and technical management.
- WP2: Requirements studies and analysis, roadmaps and cookbook.
- WP3: Grid middleware components, APIs and applications migration and integration.

- WP4: Network resource provision and operational support.
- WP5: Training, dissemination and communication.

B.4. DELOS

The DELOS (http://www.delos.info/) network intends to conduct a joint program of activities (JPA) aimed at integrating and coordinating the ongoing research activities of the major European teams working in DL-related areas with the goal of developing the next generation DL technologies. The objective is to (i) define unifying and comprehensive theories and frameworks over the life-cycle of DL information, (ii) build interoperable multimodal/multilingual services and integrated content management ranging from the personal to the global for the specialist and the general population. The Network aims at developing generic DL technology to be incorporated into industrial-strength DL Management Systems (DLMSs), offering advanced functionality through reliable and extensible services. The Network will also disseminate knowledge of DL technologies to many diverse application domains. To this end a Virtual DL Competence Center will be established which will provide specific user communities with access to advanced DL technologies, services testbeds, and the necessary expertise and knowledge to facilitate their take-up.

The specific objectives of the DELOS are:

- to develop a common architectural digital library infrastructure that can be customized to meet the particular requirements of different sectors and applications.
- to provide a common foundation for several forms of information seeking, searching and querying in digital libraries so that it may become possible for all to be provided by digital library systems an a cohesive way.
- to establish a sound framework for expressing and managing unconventional information manipulation that are very critical in many applications.
- to provide a theoretical framework and technologies for supporting truly personalized, profile-based access to diverse forms of information in digital libraries.
- to establish and demonstrate integrated methodologies from different scientific fields for capturing the meaning of audiovisual data in different domains of knowledge and contexts, building on the frameworks of established or emerging multimedia standards.
- to manage multimedia data integration and highly effective retrieval, taking into account domain knowledge and context, as well as community information and interactions.
- to use the multimedia digital library content in innovative applications and different delivery platforms including the web, mobiles and digital TV.
- to establish a theoretically motivated and empirically supported frame of reference for designers and researchers in the field of user interfaces and visualization techniques.
- to create a platform to promote pan-European collaborative reserach in crucial digital archiving and preservation research areas by establishing distributed research items investigating self-contextualising objects, metadata and the evolution of ontologies.
- to develop mechanisms for the preservation of complex and dynamic objects, for automatic classification, and to create digital repositories.
- to provide a theoretical and practical framework for the evaluation of Digital Libraries and their components.
- to establish an infrastructure to support DL evaluation, thus providing strategic guidance for the design and deployment of future Digital Library systems.

More information on DELOS:

Project Reference: 507618
Start Date: 2004-01-01
Duration: 48 months
Contract Type: Network of Excellence
End Date: 2007-12-31
Project Status: Execution
Project Funding: 6.00 million euro

B.5. BRICKS

The BRICKS Community (http://www.brickscommunity.org/) is the aggregation of a large community of users, composed of content providers, art professionals, and art researchers, as well as students, citizens, tourists, etc. in order to build a consensus, sharing knowledge and service on Digital Content. A unique chance to support the cultural institutions in encouraging innovation.

BRICKS prides itself in setting out to achieve both ambitious and challenging goals: to build organisational and technological foundations in order to integrate the existing digital resources into a common and shared Digital Library. The objective is to develop an integrated system for a new generation of Digital Libraries, a comprehensive term covering "Digital Museums", "Digital Archives" and other kinds of digital memory systems. The initiative foresees the creation of a networked system of services, encompassing globally available collections of digital multimedia documents and a comprehensive repository for the European Digital Memory based on Cultural heritage (but a variety of other skills and experiences are equally involved).

One of the project's principle tangible results will be the development of a 'Factory' that is self-sustaining in the future. The BRICKS Factory will define, develop and maintain a user- and service-oriented space to share knowledge and resources in the Cultural Heritage domain. The most advanced technologies - semantic web, web services, DRM system, watermarking and so on - will be considered in order to offer innovative and customized solutions.

While managing a budget of around 12,2 million Euros, the BRICKS multidisciplinary partnership brings together museums, leading-edge technological and cultural organisations, research centres, governmental cultural heritage institutions and small-medium enterprises with specific skills. This exceptional consortium, aims at meeting the increasing needs of the cultural heritage actors - content providers, art professionals, and art researchers, as well as students, citizens, and tourists.

Scalability and adaptability is one of the more interesting advantages of the project, granting the excellence in the provision of service quality on the one hand and adapting it to the increasing volumes of requests, content, and users on the other.

In order to build a consensus and a critical mass, to share knowledge and services for digital content, and to exploit the results achieved, the BRICKS Community has been established, and it is growing every day. A wide spectrum of solutions are offered to the content and service providers that wish to become members, with a well balanced graduality of engagement. Among the Community members one may count the UNESCO (INT) and the Soprintendenza di Pompei (IT), the Gakujoken-Japan Ministry of Education and the Technische Universität Berlin (DE), the National Library of South Africa and the Fitzwilliam Museum - Cambridge University (UK), to name but a few.

More information on BRICKS:

Start Date: 1st January 2004

End Date: 30th June 2007

B.6. REVEAL-This

REVEAL THIS (http://www.reveal-this.org/) addresses a basic need underlying content organisation, filtering, consumption and enjoyment by developing content programming systems that will help European citizens keep up with the explosion of digital content scattered over different platforms (radio, TV, World Wide Web, etc), different media (speech, text, image, video) and different languages. People should be spending most of their leisure time enjoying the content, not searching for it.

REVEAL THIS aims at developing content programming technology able to capture, semantically index, categorise and cross-link multiplatform, multimedia and multilingual digital content, as well as provide the system user with semantic search, retrieval, summarisation and translation functionalities.

The main objective of the REVEAL THIS project is the design, development and testing of an integrated infrastructure that will allow the user to store, categorize and retrieve multimedia and multi-lingual digital content across different sources (TV, radio, music, Web), with a view to personalize the user experience with these sources.

The architecture of the REVEAL THIS multimedia production line will include the following functional blocks:

- Cross-platform audio-visual portals/services
- Tools and systems for cross-media production/delivery
- Consumer interactivity, personalization and profiling

REVEAL THIS will develop and integrate technologies that will enable the user to interactively personalize her/his use of multimedia information (educational, entertainment, etc.) that reaches her/him through a multiplicity of channels that are currently independent of each other.

More information on REVEAL THIS:

Project Reference: 511689
Start Date: 2004-11-01
Duration: 30 months
Project Cost: 3.49 million euro
Contract Type: Specific Targeted Research Project
End Date: 2007-04-30
Project Status: Execution
Project Funding: 2.30 million euro

B.7. PENG

The PENG project aims at defining a flexible, personalised and context-aware system for the gathering, filtering, retrieval and presentation of multimedia news for news professionals (e.g. journalists and editors), with a view of making the system also available later for general users. In this context, with the term news we refer to any kind of news, including information regarding leisure and entertainment. The system is conceived as a personal assistant, supporting journalists in all stages of the news lifecycle. Information (text, images, and videos) is gathered from different sources (including the Web) using a combination of push and pull technologies and presented to the user in a personalised way. In the push phase a filtering approach will be developed, by means of which a first selection of news from newswires and local and online archives will be accomplished. This filtering will be based both on a dynamic user profile and on the personal user's trust in the information sources. This last aspect will be managed by means of trust scores, which are

dynamically modified, based on user feedback. In the pull phase a user query and the user profile will be used to retrieve further and more specific information from the same source used in the pull phase, but also from additional sources automatically selected in relation to the content of the query and the user profile. This will be done by means of a distributed information retrieval approach, where the query can be automatically generated from user feedback on the information presented by the pull phase. Therefore, by using the PENG system, both information professionals, such as journalists or editors, and general users of news services can programme the content of the required service by adaptively tuning the contribution of the distinct sources to their information retrieval needs. This is done by both using a time-dependent user profile, and by means of the distinct trust scores of the information sources.

Appendix C. Performed Actions

C.1. Presentations

An extremely active channel for dissemination within the project, most presentations contribute directly to Task 4.2.3 Liaison with Other Initiatives:

- DELOS Workshop on Evaluation of Digital Libraries, 4-5 October 2004, Padua, Italy (D. Castelli)
- IST 2004, "eInfrastructures: Empowering Research and Education with the most advanced ICT" and eInfrastructures Networking Session, 15-17 November 2004, The Hague, The Netherlands (J. Michel)
- 1st Concertation Meeting on eInfrastructures, 22-23 November 2004, Den Hague (D. Castelli)
- Participation in the SeeGrid Workshop, 24 November 2004, Den Hague (A. Manieri)
- Participation in the Conference "Dall'e-science all' e-industry con il GRID computing" (i.e., From e-science to e-industry with Grid Computing), 7 December 2004, Genova, Italy (D. Castelli)
- National Documentation Centre of Greece, 2 December 2004, Athens, Greece (Y. Ioannidis)

C.2. Publications

The project's scientific findings and concerns are not mature enough yet to be regarded as valuable dissemination material, so few publishing activities have been undertaken. However, much effort has been made towards making the project and its objects known via various published means.

- Donatella Castelli introduced the informatics community to the DILIGENT project by contributing a descriptive article to the ERCIM News special edition on grids. This issue was the most popular ever released by the publication with approximately 11,500 copies distributed in over 100 countries (Castelli, D. "DILIGENT: A DIgital Library Infrastructure on Grid ENabled Technology", ERCIM News n.59, October 2004).
- Both ESA (http://www.esa.int, http://www.esa.int/eo) and the CERN Computing Newsletter (http://www.cerncourier.com) published articles on the DILIGENT project near the end of 2004.
- A press release (dated January 10 2005) has been given to the Italian newspapers announcing the DILIGENT project. The material has been prepared by a specialised group from ENG, consisting of members of the IT, communication and marketing teams of the company.

C.3. Synergies

Although DILIGENT results are not yet mature to be presented to other communities, initial actions that will later on lead to collaboration have already been taken. These actions are mentioned below:

SeeGrid

Greek participants had meeting with the DILIGENT Dissemination & Liaison activities workpackage leader, in order to identify opportunities for collaboration in the near future. As outcome of this meeting, projects exchanged internal documents and identified common ground. Presenting DILIGENT as an application to be hosted on top of the infrastructure

provided by SeeGrid is one of the initially identified opportunities, reusing within the DILIGENT components or knowledge already developed by SeeGrid (e.g. text categorization component) is another one, while linking the SeeGrid search engine as an external source to DILIGENT is a third one. These and even more options will be evaluated in the future.

DELOS NOE

Collaboration between DILIGENT and DELOS has been initiated since the beginning of the project in order to identify events to be commonly organized, although synergy will not be limited to that. As part of this a join training event (Introduction to EGEE) has already been settled to take place in Athens on the 16th of April 2005. This event is supported by CERN as an EGEE core partner.

Appendix D. Web Site Structure

The DILIGENT website is currently structured in the following manner:

Home	Welcome to DILIGENTproject.org
About DILIGENT	Placeholder for general info about the project
- General Info	General information about the project (financials, duration, etc.)
- Project Objectives	Brief enumeration of project objectives
- Architectural Approach	Brief architectural approach of DILIGENT platform
- Consortium	Information about the consortium
- Partners	Brief list of the partners
-- Partner Details	Details about project partners (short "presentations")
-- Observers	Placeholder for project observers
-- Governance	Information about the Governance of the project
--People	List of persons involved
--- Bios	Short bios and roles
Contact Us	Section of contact information
- Contact forms & info	General contact information for specific project persons
- Mail-list Registration	Form that handles registration to project's mailing list
- Newsletter Subscription	Form that handles registration to project's newsletter subscription
- Support	Form that handles registration for specific support
-- Submit a Bug	Form that allows visitors to submit info on bugs of the platform
-- Knowledge Base	Placeholder for knowledge base articles
-- Suggestions/Comments	Form that allows visitors to submit suggestions and comments on the site and the DILIGENT procedures
- Register site member	Form that allows visitors to submit requests for registration
- Get involved	General information on involvement
-- Notify us...	Form that allows visitors to submit requests for registration, or "free form"
FAQ	List of common Q & A pairs
- General FAQ	List of common Q & A pairs on various topics
- Technical FAQ	List of common Q & A pairs on technical topics
- News and Latest events list	Placeholder for news and events announcements
- DILIGENT Events	DILIGENT events list
- Related Events	Other relevant events list
Downloads	Public downloads section of the site
- Source & Binaries	Placeholder for source and executables
- License	Licensing information for accessing project's documents and binaries (documents and code)
Documents	Placeholder for document downloading
- Glossary	A Dynamic Glossary of Terms and Acronyms

- Publications	Placeholder for project's publications
- Whitepapers	Placeholder for project's whitepapers
Workspaces	Link to the BSCW
Showcase	Placeholder for on-line demonstration of project activities
- The ARTE Scenario	Short presentation of the scenario
- The ImpECt Scenario	Short presentation of the scenario
- Platform test	Placeholder for future on-line demonstration of the project
Links	Organised links to relevant web resources
Site Map	Presents an overview of the site structure
Disclaimer	Copyright and disclaimer

References

[1] DILIGENT Contract Annex I : Description of Work

[2] 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]

[3] DILIGENT Web Site (http://www.DILIGENTproject.org/)

[4] CoreGrid Web Site (http://www.coregrid.net/)

[5] SeeGrid Web Site (http://www.see-grid.org/)

[6] DELOS Web Site (http://www.delos.info/)

[7] BRICKS Web Site (http://www.brickscommunity.org/)

[8] REVEAL THIS Web Site (http://www.reveal-this.org/)

Acronyms

Acronym	Term Description
2.5G	2G Systems + Advanced Data Services (ie GPRS)
3G	Third Generation Mobile Systems (UMTS)
API	Application Programming Interface
ASP	Active Server Pages
ASP	Application Service Provider
COM	Component Object Model
COP	Component Oriented Programming
CSS	Cascading Style Sheets
DBMS	Database Management System
DHTML	Dynamic HTML
DL	Digital Library
EU	European Union
GGF	Global Grid Forum
GSM	Global System for Mobile communications
HTML	HyperText Markup Language
IIS	Internet Information Server (Microsoft)
IP	Internet Protocol
IST	Information Society Technologies
LAN	Local Area Network
LDAP	Lightweight Directory Access Protocol
MAN	Metropolitan Area Network
ME	Mobile Equipment
MS	Microsoft
O&A	Operation and Administration
ODBC	Open DataBase Connectivity
OLEDB	Object Linking and Embedding DataBase access components
OOP	Object Oriented Programming
RDBMS	Relational Database Management System
SAP	Service Access Point
SOA	Service Oriented Architecture
SOAP	Simple Object Access Protocol
SQL	Structured Query Language
TCP	Transport Control Protocol
VDL	Virtual Digital Library
VO	Virtual Organization
W3C	World Wide Web Consortium
WAN	Wide Area Network
WLAN	Wireless Local Area Network
WML	Wireless Markup Language
WYSIWYG	What You See Is What You Get
XHTML	eXtensible HTML

Acronym	Term Description
XML	eXtensible Markup Language
Xpath	XML Path Language
XSL	extensible Stylesheet Language
XSLT	extensible Stylesheet Language Transformations