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**EPOCH**

**Excellence in Processing Open  
Cultural Heritage**

Network of Excellence

Information Society Technologies

**D4.1.1: Report on Website**

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PIN

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## Epoch's Breaking News

- Spotlight on Epoch at [Online Archaeology](#)
- The training programme for the 2005 1st semester is now **available**
- First issue of EPOCH Newsletter is now available in the [Newsletter](#) section
- Interim Bursary Plan for 2nd and 3rd semesters is now **available**
- The report on training needs and offering is now **available**
- The report on the first semester of EPOCH bursary plan is now **available**

### Excellence in Processing Open Cultural Heritage

EPOCH is a network of about a hundred European cultural institutions joining their efforts to improve the quality and effectiveness of the use of Information and Communication Technology for Cultural Heritage.

Participants include university departments, research centres, heritage institutions, such as museums or national heritage agencies, and commercial enterprises, together endeavouring to overcome the fragmentation of current research in this field.

A general presentation of EPOCH is available here ([PPS](#)) ([PDF](#)) ([OpenOffice](#)).

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Done

The home page of the EPOCH web site www.epoch-net.org

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## 1. Introduction

### 1.1 Goals and contractual obligations

The Network's web site is one of the Activities planned in the Technical annex under WP4 and is broadly described as "a window on its activity and a tool to access a number of valuable services provided to partners and to the entire scientific community". The web site is expected to be "fully functional [...] within the first year of activity, progressively filled with outcomes of NoE activities", with a milestone (M4.1.1) on month 4 concerning the preliminary opening with a limited set of functions, and full functionality on month 10 (M4.1.2), to proceed towards a "world-class web site".

As described in the Attachment I to the TA, its content must include:

- General information selected and prepared by the editorial staff with the collaboration of selected partners, i.e.
  - General information on research, policies and practices by country/topic
  - On special topics, in-depth reviews by experts
  - General training opportunities, including, but not limited to, those on offer from WP4.4
  - General information on events, including calendar of links to relevant calls for participation organised to allowing searching and summary reporting by topics, dates etc.
  - News service and calendar on upcoming funding opportunities
- Technical information about the Network activity provided by task force leaders and activity leaders
  - Data collections, questionnaires and results from WP2.1 (Stakeholder needs)
  - Inventory, roadmap, guidelines, best practices and feedback by users from WP2.2 (Vertical integration)
  - Inventories and reports from WP2.3 (Horizontal integration)
  - Demos and results from WP2.4 (Showcases)
  - Questionnaires and feedback forms (including refereeing score collection and collation) from WP2.5 (Developing the research agenda)
  - Guidelines on assessing socio-economic benefits and economic impact from WP2.6 (Socio-economic impact)
  - Reports and guidance on the activities within the virtual cluster (including value chain analysis) and other initiatives targeted at SMEs involved in Technology and Cultural Heritage from WP2.8 (Encouragement of SME involvement).
  - Open source software and documentation (e.g. component interface specifications) from WP3.2 (New tools)
  - Description of the EPOCH pipeline, benchmarking and modules overview from WP3.3 (Common infrastructure)
  - Contribution to standards and evaluation from WP4.2 (Standards and evaluation), including recommendations/users' feedback, documentation, evaluation guidelines etc.
  - Mobility opportunities from WP4.3 (Staff mobility and bursaries)
  - Network's own training plan, training material from WP4.4 (Education and training)
  - Programs of events organized by the Network from WP4.5 (Dissemination) and including support software for handling refereeing processes, registrations and assembling proceedings
  - Electronic versions of Network's publications including any additional multimedia material, from WP4.5 (Dissemination)
- Provision of advanced web services as

- Search tools for repositories (documents, software, datasets, benchmarks, multimedia, 3D models, etc.)
- Download area for software, other OS software, datasets etc.
- Searchable training information
- E-learning tools
- Co-operative tools for network partners, for collaborative distance work, e.g. a CVS for software, tools for teamwork on tests, and tools for reviewing and refereeing,
- Brokerage services, accessible by subject/competence of organizations and/or resource/special equipment
- Horizontal integration clearing house, with documentation concerning the integration of relevant technologies and links to further details concerning each technology
- Forums/interactive services
- News service
- Documentation service (scientific papers, reports, standards, guidelines)
- Links to other www resources, including partner sites where available

More specifically, the web site will provide the following information/services

1. Presentation pages in all the European languages and general information on the network.
2. The documentation of network activity according to predefined standards, with search tools and indexing to allow easy retrieval of relevant information.
3. Reports on conclusions drawn, guidelines and guides to best practices.
4. The description of EPOCH approved curricula.
5. The documentation concerning training opportunities.
6. A repository of the network products.
7. Forums on most relevant subjects.
8. Summary description of standards.
9. Access to the horizontal integration clearing house.
10. Access to brokerage services.
11. A repository for Open Source software created by the Network or links to software created elsewhere.
12. A repository for datasets and other tools.
13. A set of collaboration tools for network partners and associates, providing facilities for co-operative work and joint preparation of documents as well as direct or conference instant communication

Clearly, content related to NoE results will be provided on the web as soon as it is created, tested, approved and released by the competent Network activities/task forces, within the time strictly necessary to organize the electronic publication.

## **1.2 History of the web site**

The web site set up started immediately with the acquisition of the domain epoch-net.org (domains with the single word “epoch” as epoch.net or epoch.org were unavailable) and a few information pages were already published by the beginning of May 2004. However, web presence has been recorded since 25 May 2004 using a package for web statistics. The initial version of the web site was functional well in advance of the contractual deadline of 15 July 2004 (month 4). By that date,

several web services were already operational – as the forum service, the partners’ reserved area, the training and bursary service, and so on. Most importantly, the overall design had stabilized by then and creation of further services was easier. The first databases became consultable on-line in early summer, and collaborative work services were activated by September.

The web site became fully functional before VAST2004 (end of November 2004). At VAST, partners’ services were demonstrated and short informal tutorials given to participants for the collaborative work services.

The electronic voting system had been set-up by Christmas 2004, and became operational at the end of the year. Final adjustments to the poll systems were made on 31 December 2004, just before New Year’s Eve celebrations. Thus 2005 has begun with full operations of this important tool for partners’ participation to NoE decisions (about  $\frac{3}{4}$  of them voted, notwithstanding it was a new instrument, activated during the winter vacation period).

Now the web is managed by a permanent staff of 4, with a web master, a person responsible of marketing/communication/graphics, a technical advisor and a general editor who supervises all web-related activities. Other people collaborate where necessary, by providing input and checking content. An internal revision procedure has been activated, in a massive way during December-January and afterwards, with periodical checks.

The web site is now W3C and CSS compliant; work is on-going to make it fully AA-compliant (accessibility for the visually impaired, 2<sup>nd</sup> level). Gender equality compliance is periodically checked by an advisor external to the local EPOCH team.

### **1.3 Monitoring and control**

EPOCH’s web site is continuously monitored to chase errors, update news and in general offer the best service to visitors. New pages/services are tested by developers, checked by the other staff components for usability and performance, work on a test server for a while with test data, and are finally moved to the web server and released for public access.

Feedback from users is available through dedicated e-mail addresses. The poll results concerning the web site will be discussed below, but in general they confirm the design principles.

Most of the access monitoring is performed automatically using *awstats*, an Open Source statistics package ([awstats.sourceforge.net](http://awstats.sourceforge.net)) based on the server log. This is also a useful tool for external reviewers, because tricking the server log is absolutely unpractical (and also illegal in Italy, where the server is physically located) and the statistics package is easily verifiable.

The web site content is periodically generated in a static way – most of its pages are created dynamically – extracted to a local copy, which is then burnt on a CD-ROM for future record. Also the dynamic version of it is periodically backed-up for documentation.

The Executive Committee will nominate a Task Force, with components outside the web staff, to monitor and control the operations of the site.

## 2. Web site design

### 2.1 Server architecture

The overall design of the EPOCH web site is determined by the multiple functionalities it has to provide. They include multiple information pages, easily and quickly updatable by different individuals, personalized access to different services and data, and a robust security system. The whole system is based on Open Source software, produced internally or downloaded from the web.

The server system is designed to provide a satisfactory security level, prevent unauthorized access and guarantee continuity of service. The architecture is described in the following scheme

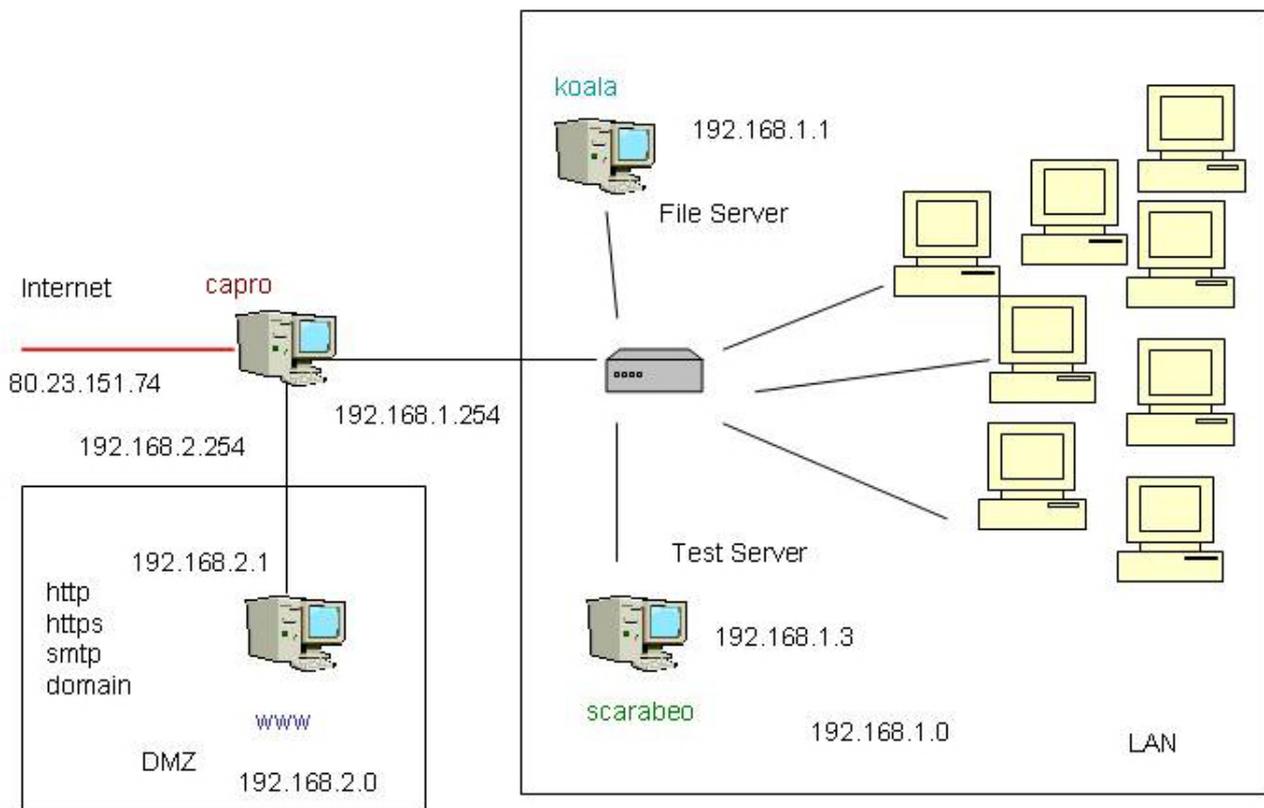


Fig. 1 – The server organization.

The interface towards the external world is the firewall “capro”. The web pages, databases and repositories are placed in the “www” server, belonging to the subnet 192.168.2.0, the so-called De-Militarized Zone and, as yet, the only component of it. The internal LAN – to which also the test server “scarabeo” belongs – belongs to the subnet 192.168.1.0 and is completely detached from the www functionality. The Internet connection at the IP address 80.23.151.74 is a 2Mb DSL is provided by Telecom Italy on the Interbusiness network.

The web site is organized as a set of distinct resources, each providing a different functionality. As yet the system hosts the following:

www.epoch-net.org: information pages and public services

news.epoch-net.org : news service

it.epoch-net.org: Italian version of part of www.epoch-net.org; same for French etc.

partners.epoch-net.org: partners’ reserved area

admin.epoch-net.org: remote administration services, restricted access.

## 2.2 Information pages

Information pages need to be easily and quickly maintained. Navigation is menu-based, so menus also have the same requirements. For this reason, after examining several Open Source portal management systems, we discovered that none provided the services we needed and decided to create one, integrating and personalizing several OS packages.

As far as the information pages are concerned, the system is database-based. The content is stored in a database which can be administered by means of a set of PHP procedures developed internally. Thus small variations of page content are quickly performed and in some cases they can be done remotely by authorized users with designated IPs, accessing admin.epoch-net.org. The appearance of the page and graphics are based, by contrast, on stable CSS and images, which require direct connection to the server for changes.

The figure below shows the administration page, from where the content of non-dynamically created pages may be modified.

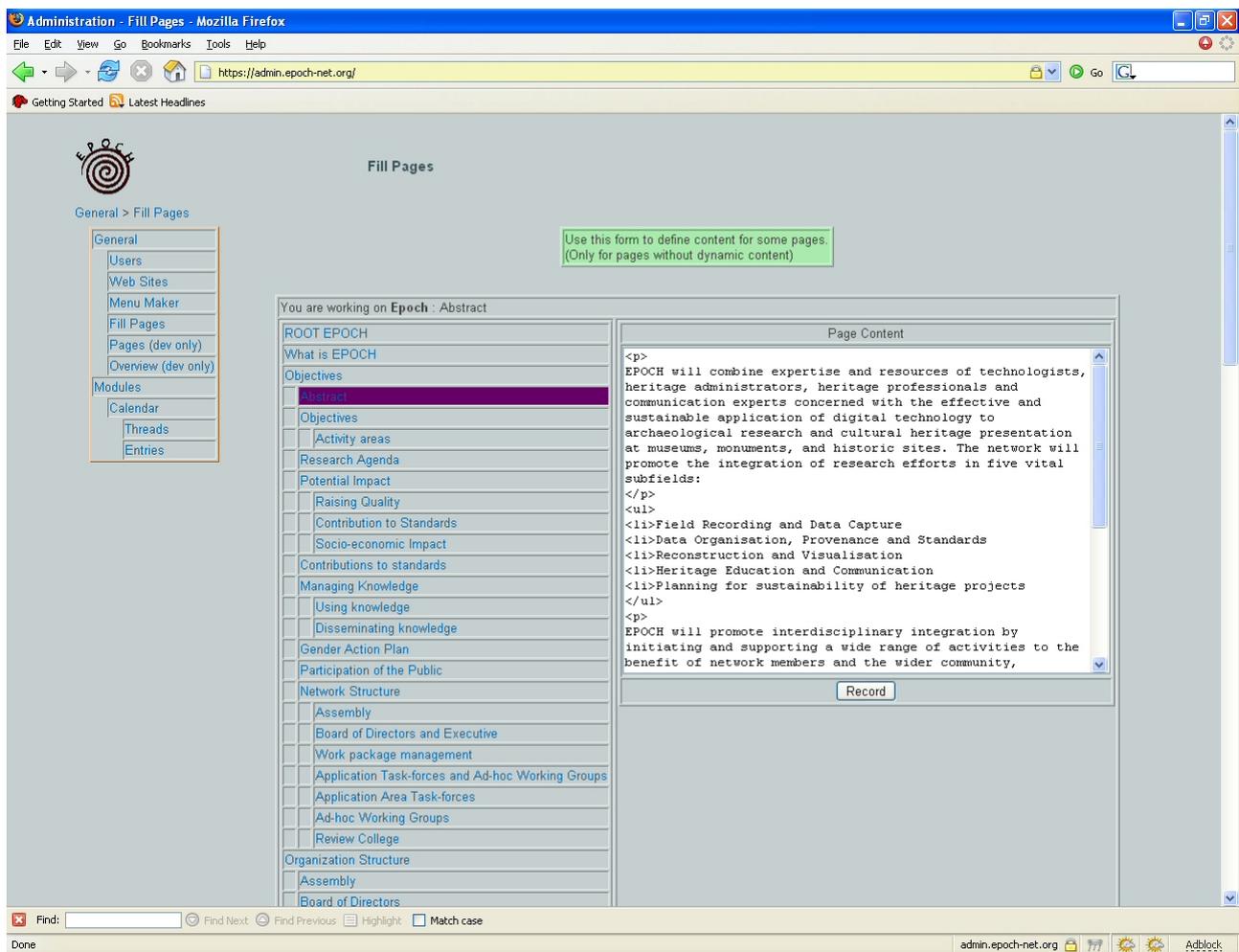


Fig. 2 – The administration page

The page is accessed via https and access is password protected. Upgrade to certificate protection is part of a planned major revision of the access system, see below. Being an internal service, graphics are practically absent from here.

## 2.3 Personalized access

As far as access is concerned, users are classified as follows.

- *Anonymous user*: this is the generic visitor, needing no registration for accessing general pages and services. Only the visitor's IP is registered by the log and used by *awstat* for statistical purposes (but could also be used for security reasons, e.g. identifying authors of malicious attacks).
- *Registered user*: this user may access also additional services and has passed a registration phase with a preliminary identity control by a human.

Registered users are further differentiated as:

- *Community user*: this is a person from the scientific community, not belonging to the EPOCH partnership, enabled to access some reserved services.
- *Partner user*: generic staff from partners. They are named by partners and can access general partners' services and data.
- *Nominated partner user*: a special partner user, enabled to access specific services and data on account of the task he/she is in charge of within EPOCH, e.g. development of some WP/Activity, member of task force, etc.

Nominated partner users include:

- *Partner's designated person for voting*: he /she may access the voting service during a poll.
- *BoD (Board of Directors) members*: they may access all the information reserved for BoD, e.g. drafts presented at BOD for decisions, minutes of BoD meetings, etc.
- *EXC (Executive Committee) members*: they may access all the information reserved for EXC, e.g. drafts presented at EXC for decisions, minutes of EXC meetings, etc.

In fact, some information is still circulating via email, while it is planned that shortly only a notification of document presence will be circulated and documents will be downloaded from the web site.

Displayed menus vary according to the site layered structure and the profile of the visitor. This happens, of course, only in the reserved area where the visitor is preliminarily identified and can be profiled. In the public area no identification is in place and so profiling is not envisaged. Profiling based on cookies has not been evaluated as useful for the present public area.

## 2.4 Security and backup

Access security is based, at present, on a username/password system, with the password separately communicated to the user by e-mail, and, on access, sent encrypted to the system via https. Due to the absence of sensitive data, no further system for access control has been considered necessary. It is planned to add a certificate-based identification system in future, to improve security, performance and simplify the identification and access management system.

Security against intrusion is mainly hardware-based. The separation of the servers and the closure of all ports, except the http one, should reasonably defend from malicious attacks. Logs are analyzed daily to verify anomalies, pointing out a potential misuse of the system.

Backups are routinely performed every night with a weekly rotation of the support and guarantee a high level of protection against data loss.

The servers are protected against blackouts by an UPS system. It covers a reasonable blackout period and manages a smooth shutdown, with automatic restart when electricity comes back. An improvement of the UPS features is planned, related to a general restructuring of the hosting structure due in 2005.

An emergency backup is to be activated e.g. during the summer closure, when the server is physically inaccessible, and due to start in mid 2005, with a mirror of the server placed elsewhere. The system will switch to the alternate server in case of failure of the main one.

## 2.5 Acknowledgement of the European Commission

The contribution of the European Commission is acknowledged in the top banner of the public site.



Fig. 3 – The site banner

EU contribution is also acknowledged on the partners' pages.

The top part of each page includes the European flag and links to the Europe site, the FP6 site and the Marie-Curie site (see, for instance, the next figure).

From every page, a link points to the standard disclaimer.



Fig. 4 – The disclaimer page

### 3. The public site: <http://www.epoch-net.org>

#### 3.1 Site map

The public area is organized according to the following scheme. Links are provided by the left-hand menu that expands with additional (second level or third level) menus according to need.

Home page	First level	Second level	Third level
	What is EPOCH Objectives	Research Agenda Potential Impact	Raising Quality Contribution to Standards Socio-economic Impact
	Organization Structure	Assembly Board of Directors Activities Management Task Forces Working Groups Review College	
	Areas of Activity	Work Package 1 Work Package 2 Work Package 3 Work Package 4 Performance Indicators	
	Targets	Network Partners Professionals Students The Public Sector The European Public Gender Action Plan <i>Partner database</i>	
	Partners Training	Grants	Eligibility Scholarship Funding Grant Amount Examples Document Checklist Gender Issues Inquiries
		Staff Mobility	Document Checklist
		Course Proposal	Scholarship Funding Document Checklist
		Approved Courses Past Activities <i>Project database</i>	First Semester Report
	EU Projects Download Job Vacancies EPOCH in the World Promotional Products Feedback Publications	Interdisciplinarity	
Disclaimer Feedback			

There is moreover, in every page, a horizontal menu giving access to separate areas:

- The News area
- The Events area
- The Community area (access limited to registered users)

- The Newsletter area

The Sitemap is accessible via the horizontal menu.

A search engine, based on the Open Source software *htdig* ([www.htdig.org](http://www.htdig.org)), is available on the top right.

### 3.2 Page style

All the above pages share the same style, managed with CSS, and have the same graphic appearance. Services accessed from here open in a new window and have a simplified page structure with no graphics except the EPOCH logo.

The structure of the pages is described in the following picture.

Graphical header. the only graphical element of the page for fast download (99K).  
It remains constant through all the web site to avail of caching

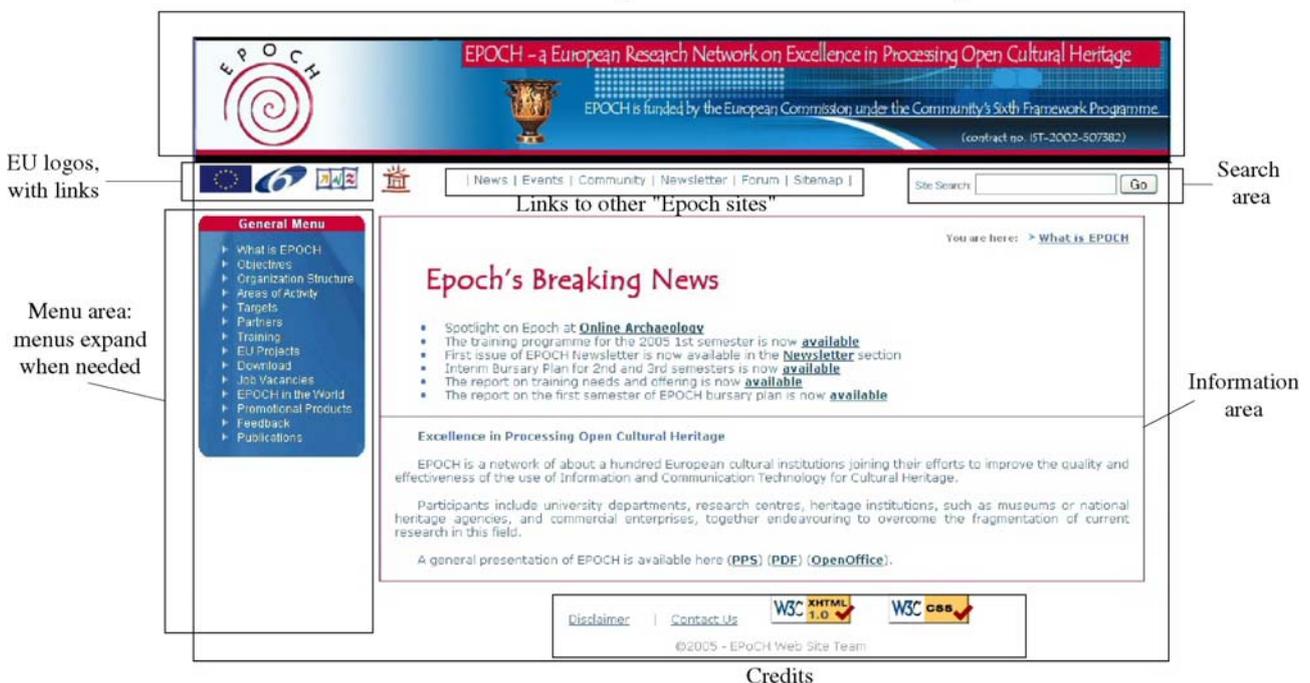


Fig. 5 – Graphic structure of web pages.

As noted in the figure, the only graphical element (apart from the small W3C-compliance banners) is the header. This has little impact on download speed, because it is relatively small (99K) and being the same for all the pages, it is cached locally and subsequent access to other pages of the EPOCH site does not require a new download of the header.

### 3.3 Public databases

The databases which are presently accessible from the public area are:

- a) The partner database. It includes partners' information and links to their web sites, where existing. The list is presented in alphabetic order and may be searched according to country or (parts of the) name. It is accessed via the "Partners" menu item.
- b) The database of projects concerning ICT applications to Cultural Heritage, accessed via the "EU projects" menu item. As yet it includes:
  - European FP5 and FP6 projects

- Culture2000 projects
- Euromed Heritage projects
- Eumedis projects

For each project, a synthetic record is displayed showing administrative details (project name, acronym, EU programme, funding, start/end date, web site and so on), the partnership (with links to the web sites), a short description and the relevant keywords. Information is taken from official EU sources, the Cordis web site or the official sites of other programmes.

The database is text-searchable, and may be searched using an XML-based query engine. The image below shows the result of a search using the terms “Virtual reality”.

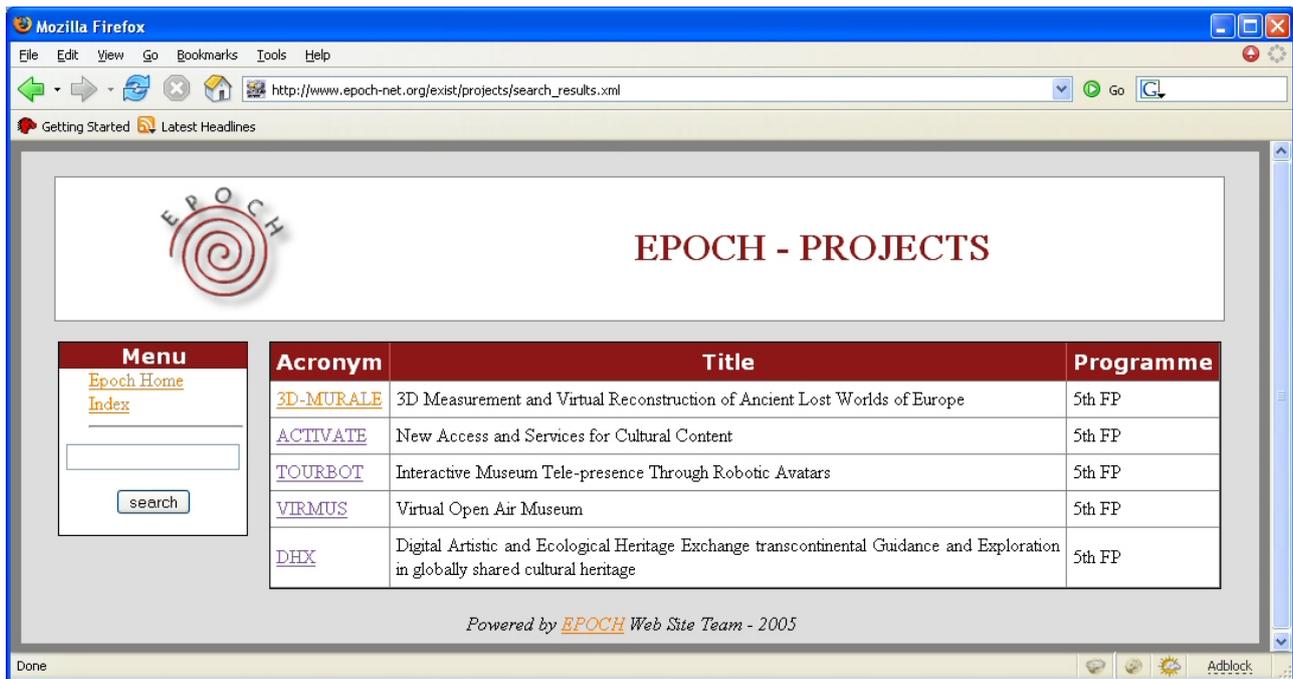


Fig. 6 – Searching the EU project database with keywords = “Virtual reality”.

The second available database includes Italian funded research projects in the same area. Notwithstanding the fact that such projects were submitted to the Italian Government both in Italian and English, the only publicly available information is in Italian, and they have been collected as they are. Anyway, keywords are in English and are common to the two repositories. Extension of the database to other European countries is under work, and UK projects are presently being collected.

The goal of the project database is to provide a one-stop access to publicly available information on funded research throughout Europe. It already provides valuable information on EU-funded research, which actually is provided in different places (CORDIS for FPs, the official sites for Culture2000 and the others) due to different responsibilities in the respective funding programmes.

- c) The brokerage database. This database includes all available information on partners' specialization, skills and scarce equipment. It is searchable according to various criteria. At the moment, access is restricted to partners only, to allow update/correction of their information, before the forthcoming opening to the public. The database aims to support the brokerage service offered by EPOCH

All the databases on the EPOCH web site use the Open Source, native XML database engine *eXist* ([exist.sourceforge.net](http://exist.sourceforge.net)). *eXist* is an Open Source native XML database featuring efficient, index-based XQuery processing, automatic indexing, extensions for full-text search, XUpdate support and

tight integration with existing XML development tools. A survey provided by the 4.2 Standards team has provided evidence that eXist performs better than other similar tools, thus it has been adopted as the universal database system for the EPOCH web site to manage documents. Service databases, such as the one containing the texts of information pages, are usually managed with standard RDBMS. Currently MySQL is used.

### 3.4 News: <http://news.epoch-net.org>

The news section is intended as a searchable service where news are displayed and stored for future search. It has the same interface as other services – i.e. a simplified header – and uses the same database engine as other searchable repositories.

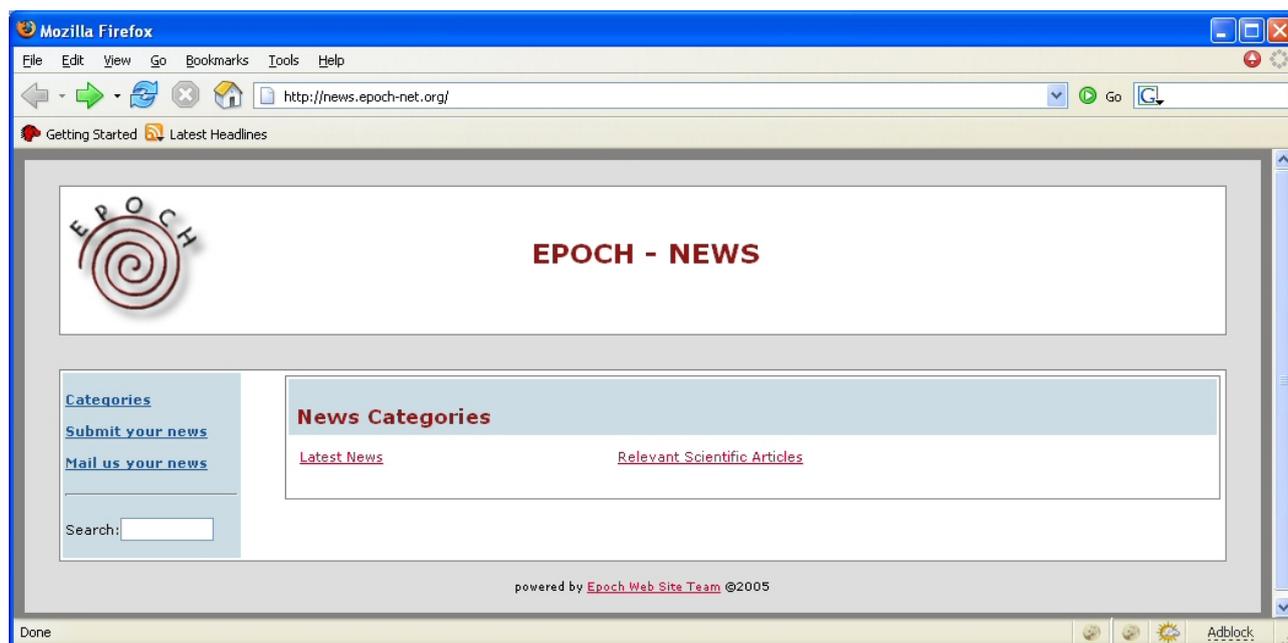


Fig. 7 The news search page.

News is organized into categories and is text-searchable. News may be submitted by users using a simple form, and is added to the repository after validation by the site team.

### 3.5 Events

Events are displayed in chronological order from the present date. Every event has a validity and is removed from display after it expires. Usually it includes a short description and a link to the event web site. Event information is provided by the web team or by users, who notify it by email. The latter is the most frequent case, with a much better feedback than the news service.

### 3.6 Newsletter

This section allows downloading the EPOCH newsletter in PDF format. An entire issue, or individual pages, may be read on-line or downloaded.

Other documents are available for download, respectively from the Downloads page, from where various documents may be downloaded, or from the Publication page, which contains links to electronic versions of EPOCH publications. Also for the latter, the download may involve the entire publication or partial sections.

It is likely that the increasing volume of material produced by the network will require re-organization, in the future, of the download functionality, which at present needs little organization. Documents will be accompanied by an abstract and organized in a database similar to the others already accessible from the web site.

### 3.7 Forum: <http://forum.epoch-net.org>

The forum section is based on the Open Source forum manager *phpBB* ([www.phpbb.com](http://www.phpbb.com)) and has a very simple structure. A forum is created on demand by a central administrator. Then it is administered on-line by the “owner”, i.e. the user who made the request and performs all the management operations. As usual, a forum may be moderated or not moderated, i.e. posts may require approval to appear or not.

It appears that there is a relatively high number of visits (see the example shown below, with some 1500 visits per post) but little contribution from users.

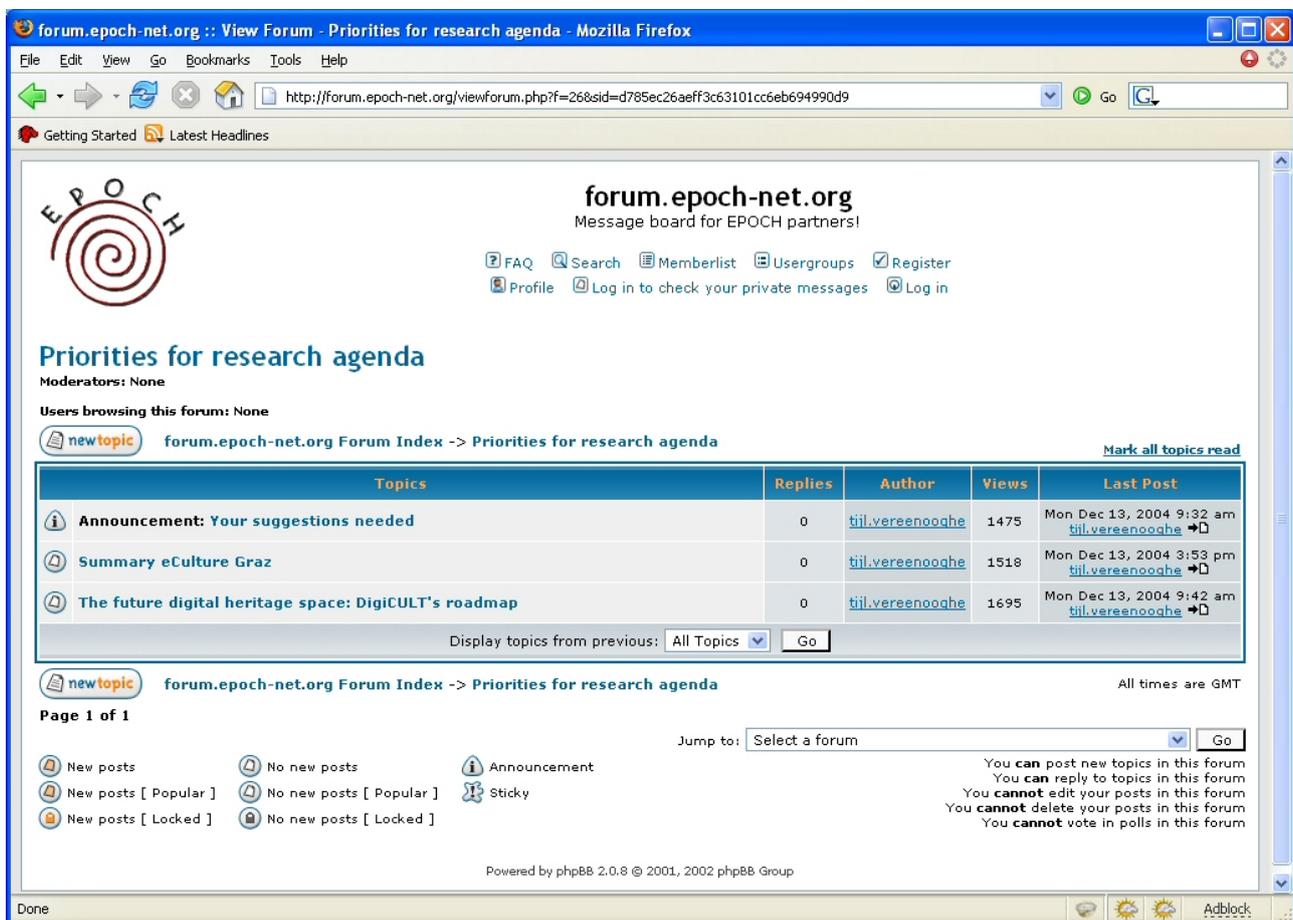


Fig. 8 – The forum service

### 3.8 National versions of the web pages: <http://xx.epoch-net.org>

An extended summary of the information pages is being translated into national languages, as the result of a volunteering effort by partners and other good-will collaborators.

It is planned to complete the translation by mid 2005.

After an initial test period, there are currently translations in Italian ([it.epoch-net.org](http://it.epoch-net.org)), French ([fr.epoch-net.org](http://fr.epoch-net.org)) and Hungarian ([hu.epoch-net.org](http://hu.epoch-net.org)). Initially, during tests, pages could be

accessed by typing the entire URL only. A link from the home page, displayed in the web site development, directs visitors to national versions. Other national versions are underway.

The priority of languages has been established based on those countries where knowledge of English is less widespread, in particular among professionals working in cultural heritage, and, of course, on the availability of reliable translators. For this reason there is a prevalence of Latin languages.

Information on the national pages changes more slowly, to avoid the need for frequent translations of updates. Thus, the content of the English version will always be more up to date and rich, but national pages will never be outdated. Services such as databases are not planned to have a national version.



Fig. 9 – The home page in the Italian, French and Hungarian versions.

#### 4. The partners reserved area: <https://partners.epoch-net.org>

The partners' area is accessed from the menu item "Community" from the horizontal menu, present in every page of the public area, or directly as <https://partners.epoch-net.org>.

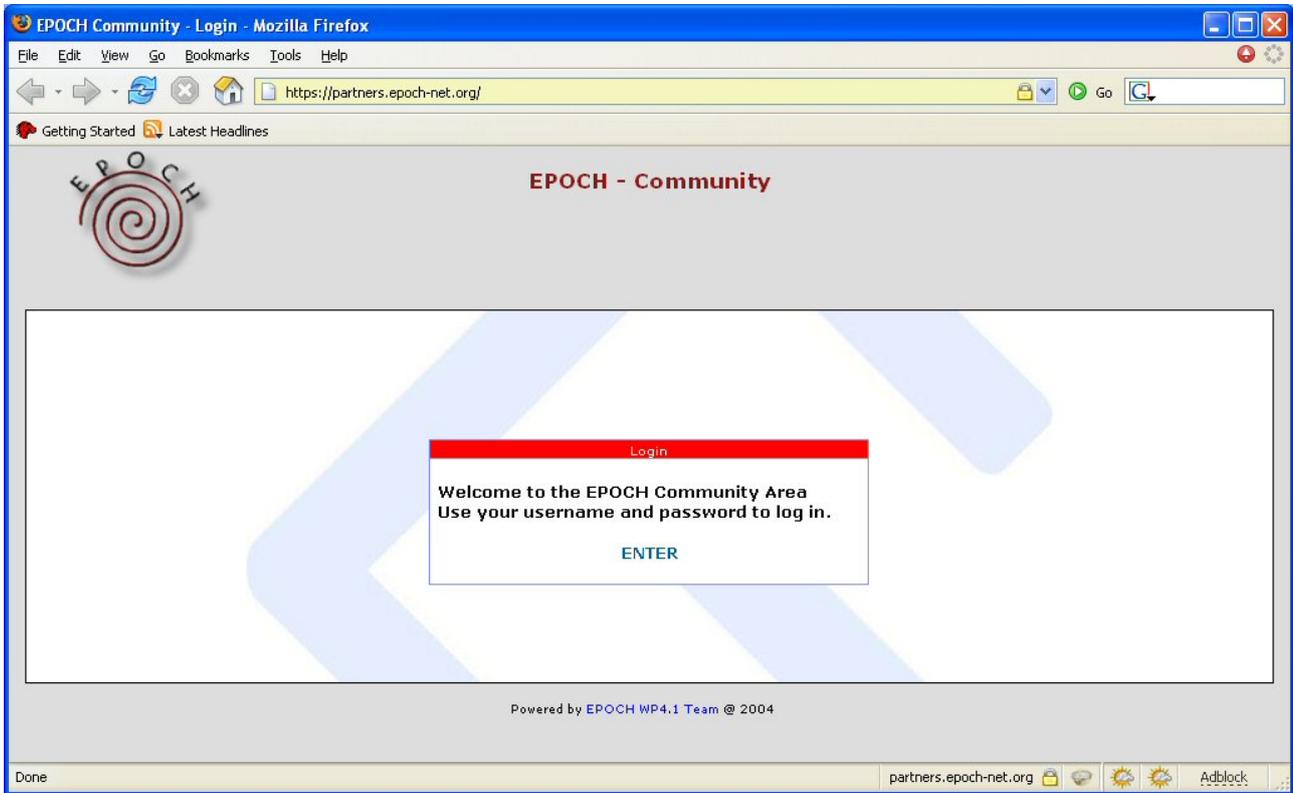


Fig. 10 – The identification request to access the partners' reserved area

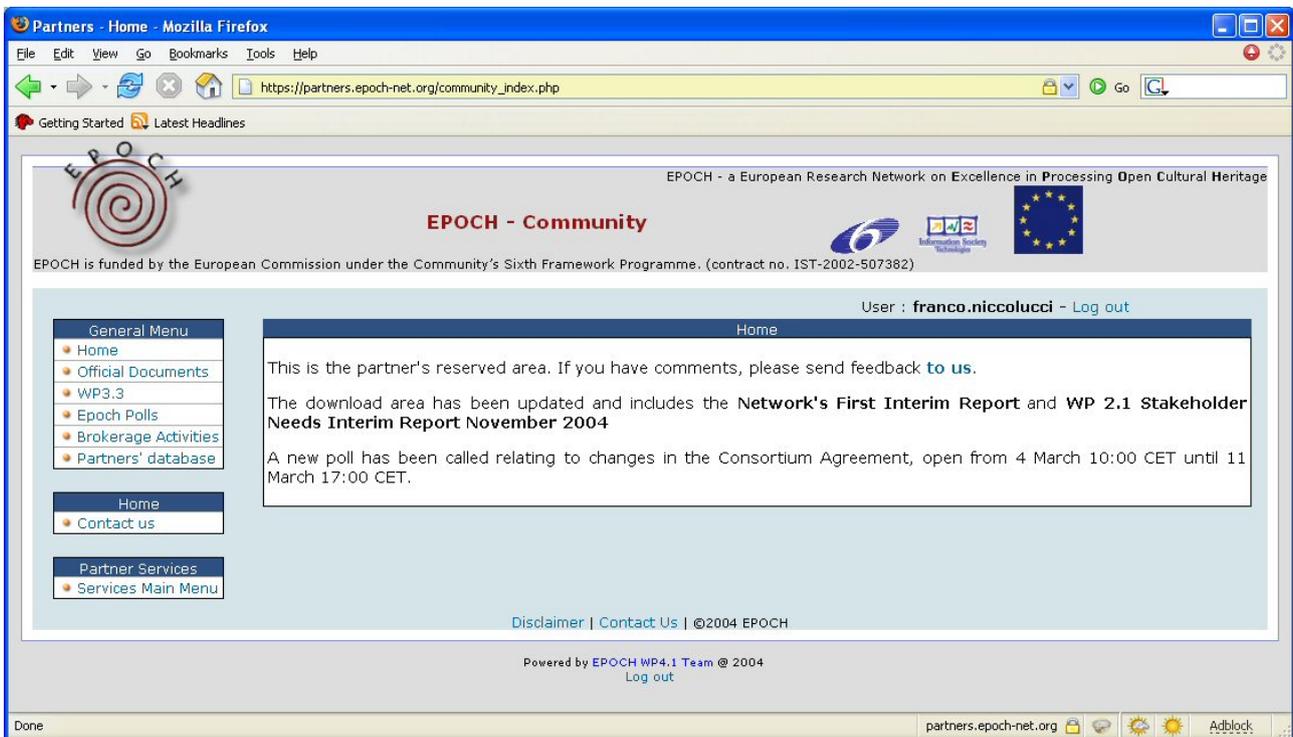


Fig. 11 – Partners' area home page.

Access is controlled by use of a username/password system, and after identification users can access the services they are enabled to use.

User data is stored in a database with encrypted passwords. Access to polls, in particular, is restricted to official partner representatives and they receive a new password for each poll.

As it can be seen from the picture of the home page, the graphic structure of the partners' home page is essential. There is little need for embellishment here and only a few logos (the EPOCH spiral, the EU flag and the symbols of FP6 and IST) have been included. They are linked, as usual, to the respective home pages

The content of both the partners' home pages and of other pages changes very frequently according to new results or activities required of partners. In the above figure, for example, a forthcoming poll is announced.

Among other services, the site includes the brokerage partner database, which has a simple text-based search or an advanced, structured search system.

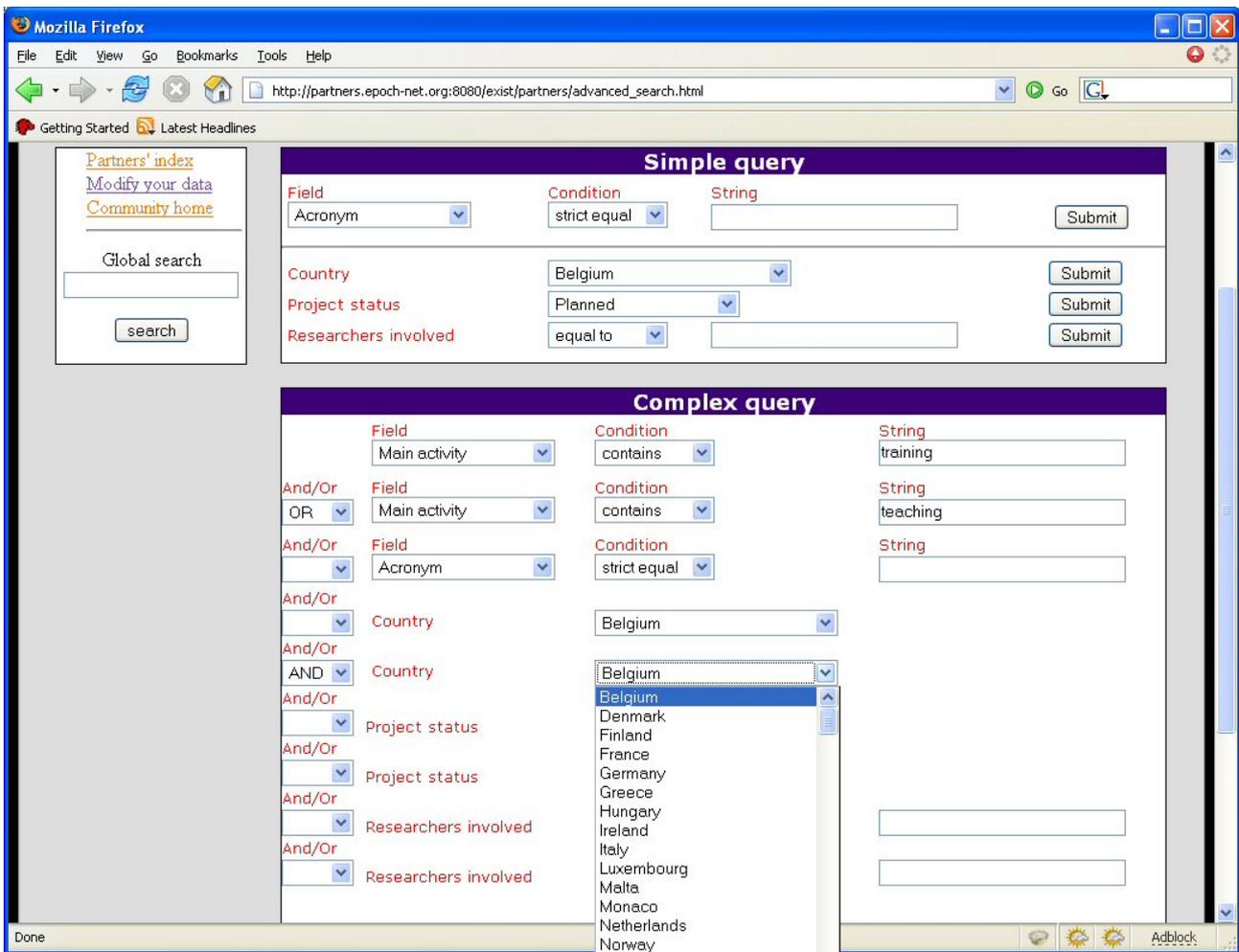


Fig. 12 – Setting the search criteria for the brokerage database

Only the partner owning the data can access it for modification. As already mentioned, this database will migrate to the public area after partners have updated their information.

## 5. Web services available to partners

The services main page may be accessed by the menu item “Services main menu”.

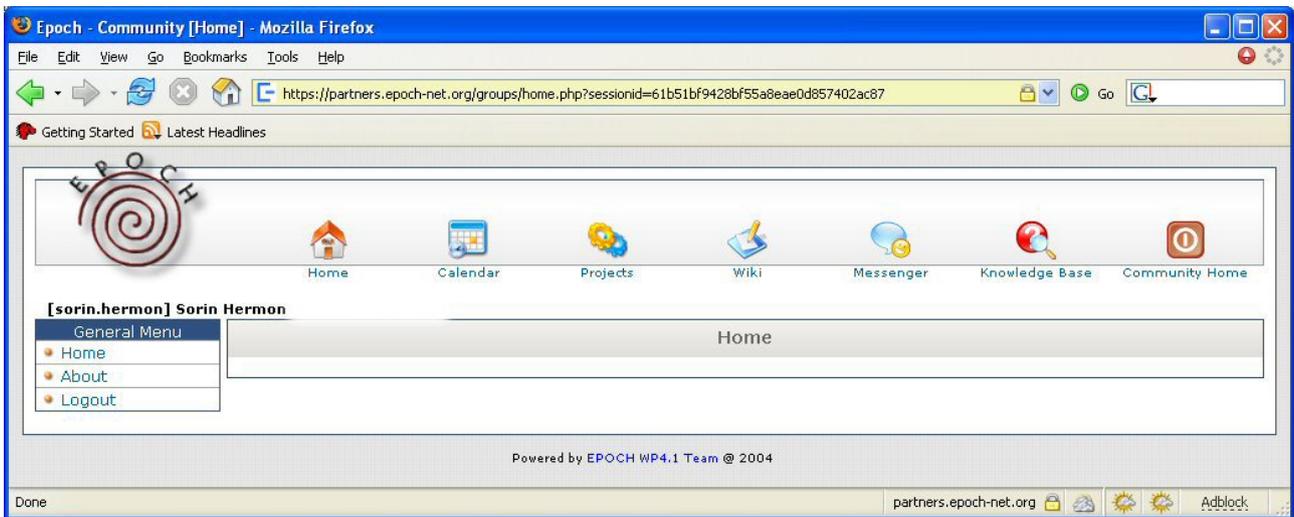


Fig. 13 – Services home page

Available services include, among others, a calendar service for individuals and groups

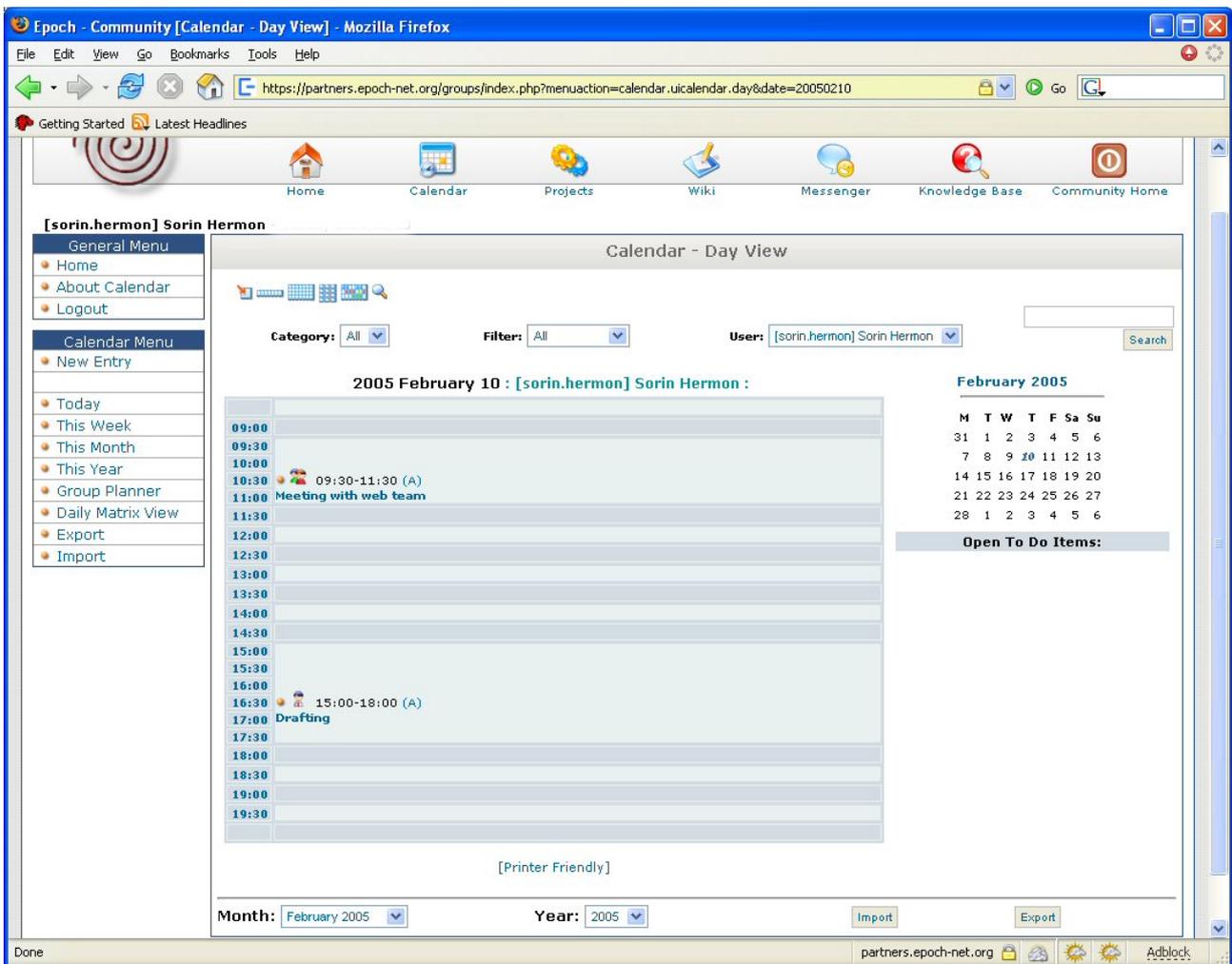


Fig. 14 – The calendar service

The calendar service (the above image shows the daily view, but weekly, monthly and yearly views are also available) allows management of a group calendar with private/public commitments. The calendar is shared: items may involve the single user, several users or teams. In the latter two cases, it is sufficient to add a task for it to be displayed in each participant's calendar and checked against other participants' previous commitments, notifying them of any conflicts.

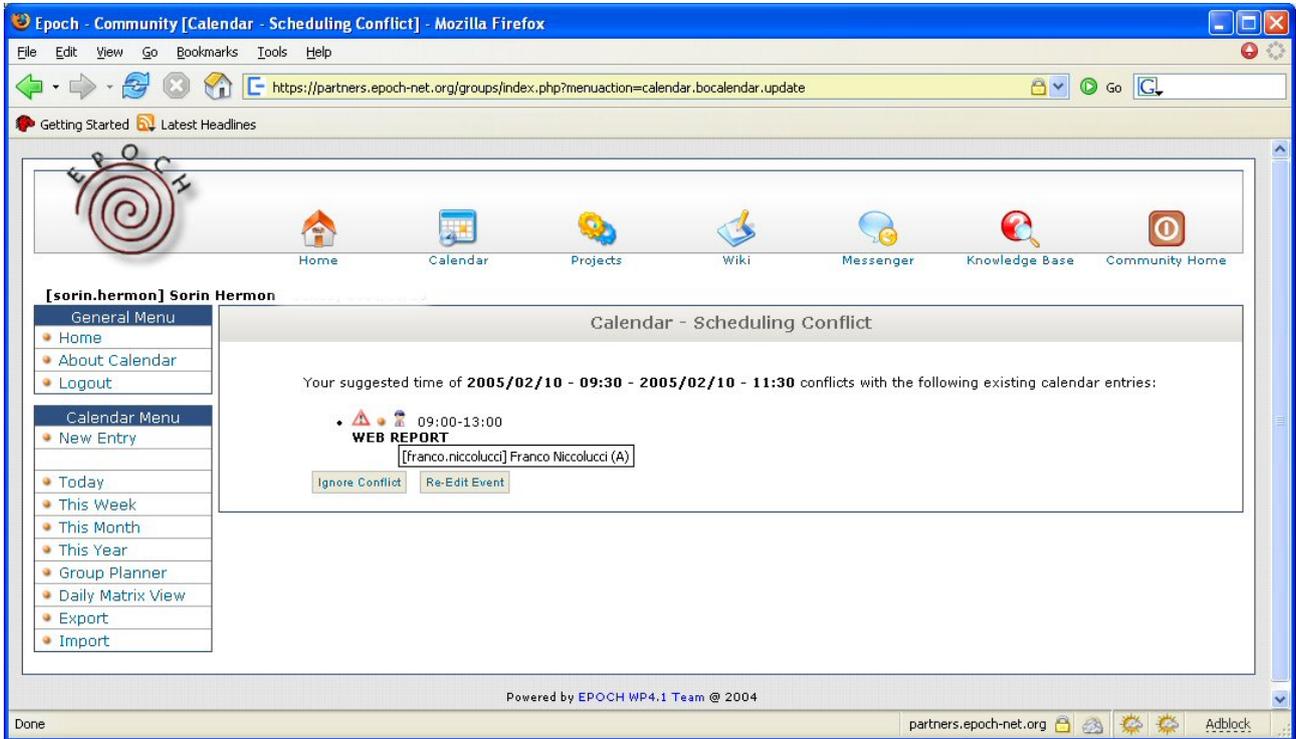


Fig. 15 – A conflict in calendars: one of the participants is not available.

The “Project” function manages projects involving several participants and the related jobs, storing a number of details about the projects and the jobs.

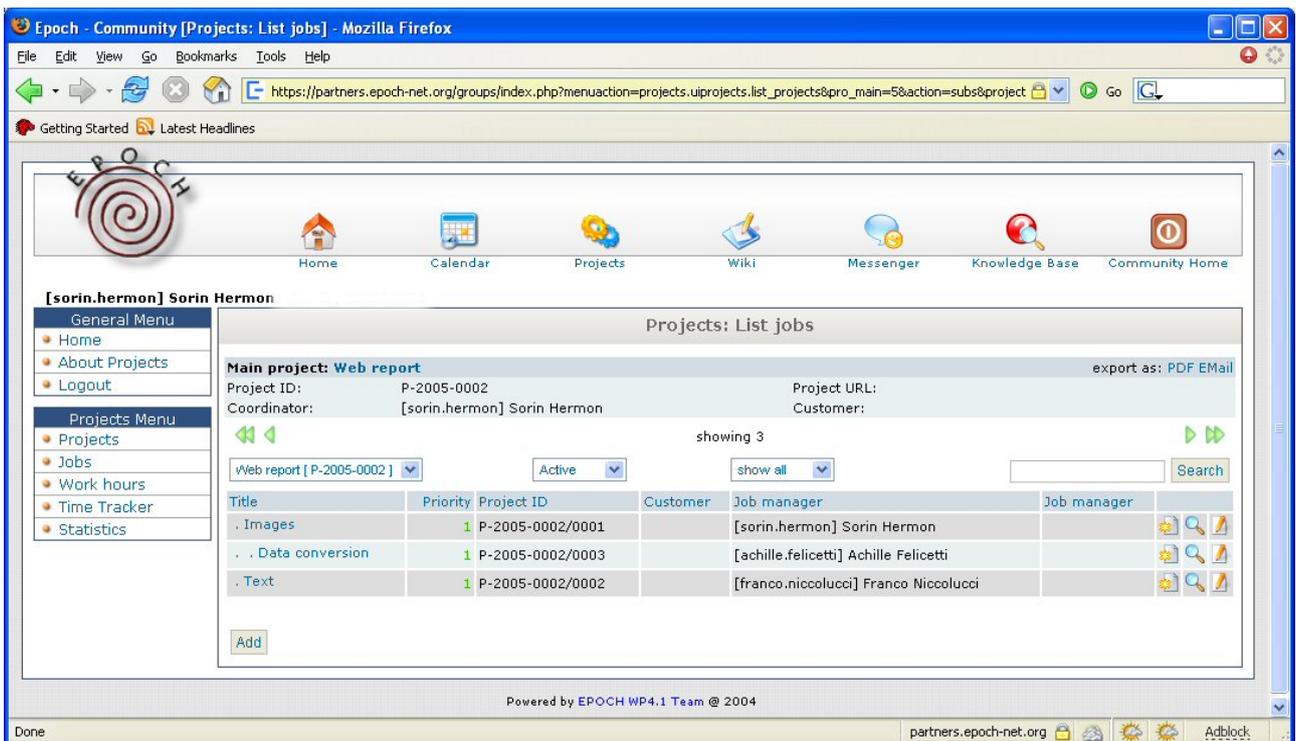


Fig. 16 – Project management: a project with its jobs and people in charge of them.

The wiki and the messenger are standard for this kind of service. As is well known, a wiki is a system that allows the creation of a web page with cooperative effort. Here the wiki is used to work collaboratively on a joint document. The service has been released recently and use by partners is still in its initial phase.

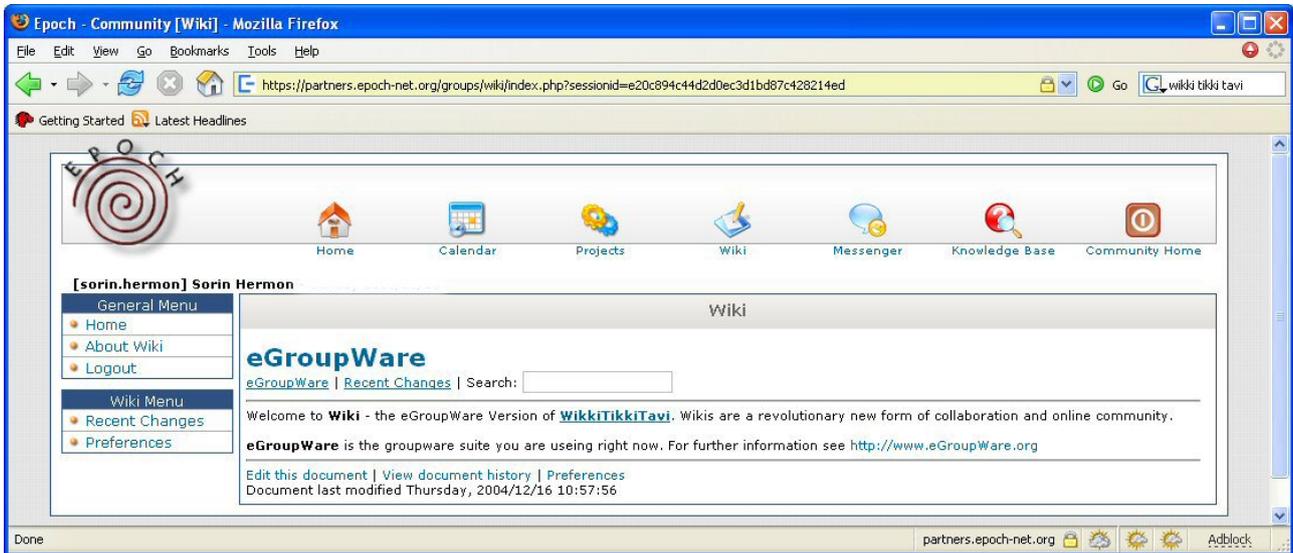


Fig. 17 – The wiki service, with a sample wiki provided with the package.

The last service available to partners is a content management system called “Knowledge base”. It allows for the storage of documents and the retrieval of them using a flexible system of queries.

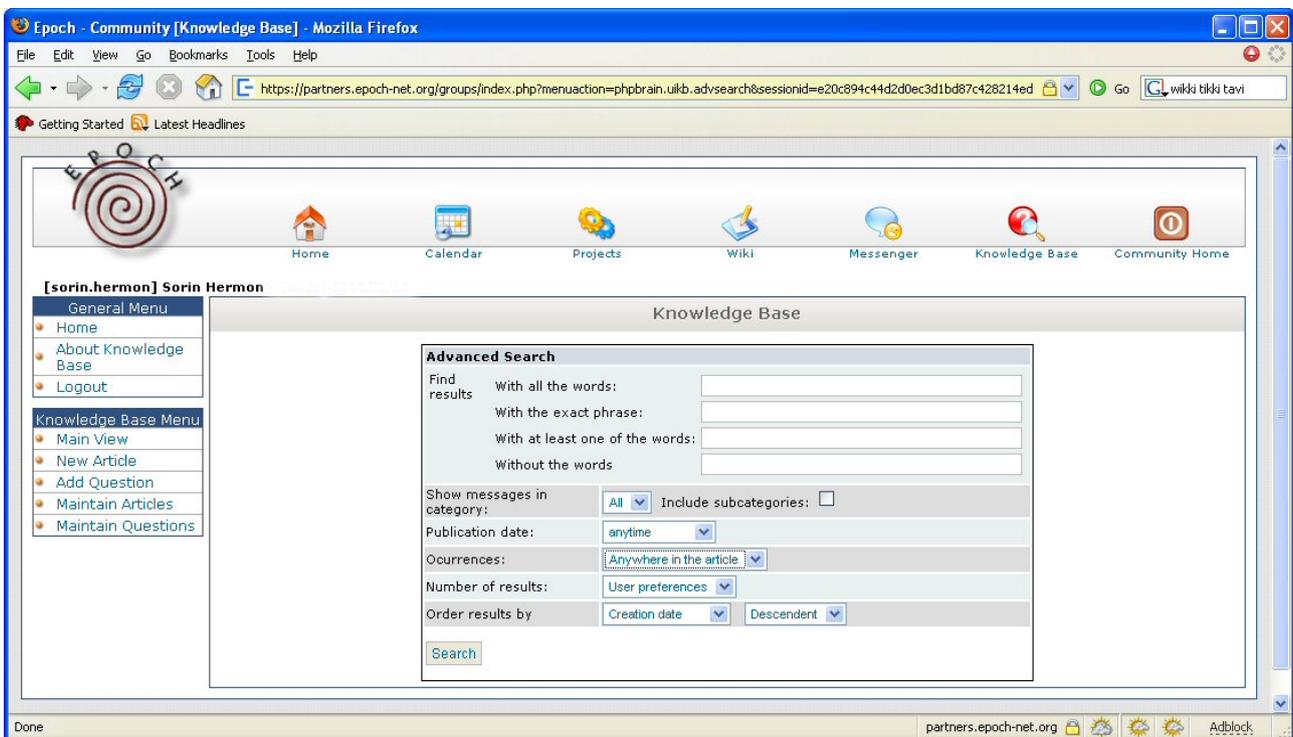


Fig. 18 – The knowledge base service search window.

The service section is based on *eGroupWare*, an Open Source package for collaborative work management ([www.egroupware.org](http://www.egroupware.org)).

## 6. The poll system

The poll system enables designated users to express their vote on questions posed by the EXC autonomously or on behalf of the BoD. Usually, a poll is preceded by a document explaining the issues to be voted on which is sent to all partners by e-mail and which is also published in the partners' area. The email contains other instructions, for example the voting period, and provides partners with a direct link to the poll page. This may however also be accessed from the menu item "Epoch polls" in the partners' reserved area. A separate email, directed to the person responsible for voting, contains the unique password he/she has to use for that particular poll. This password will not be used in future polls.

The polls page contains a link to voting instructions and links to the document(s) describing the poll issues. It also contains the questions on which partners have to vote.

The vote may be expressed by

- A simple Yes/No/Abstain;
- The choice of one option among several shown, sometimes including "Other"
- The expression of agreement/disagreement on a scale from "Strong disagreement" to "Strong agreement" through plain agreement/disagreement and neutral;
- The expression of a grade of approval/importance/etc. on a numeric scale 0 to 10.

All voting options always include "Abstain", and a free comment window is present to collect voters' feedback or comments.

Voters may express their choice as many times as they wish during the voting period, each vote superseding previous ones. For example, the start page for the poll on proposed administrative changes to the Consortium Agreement is displayed as follows:

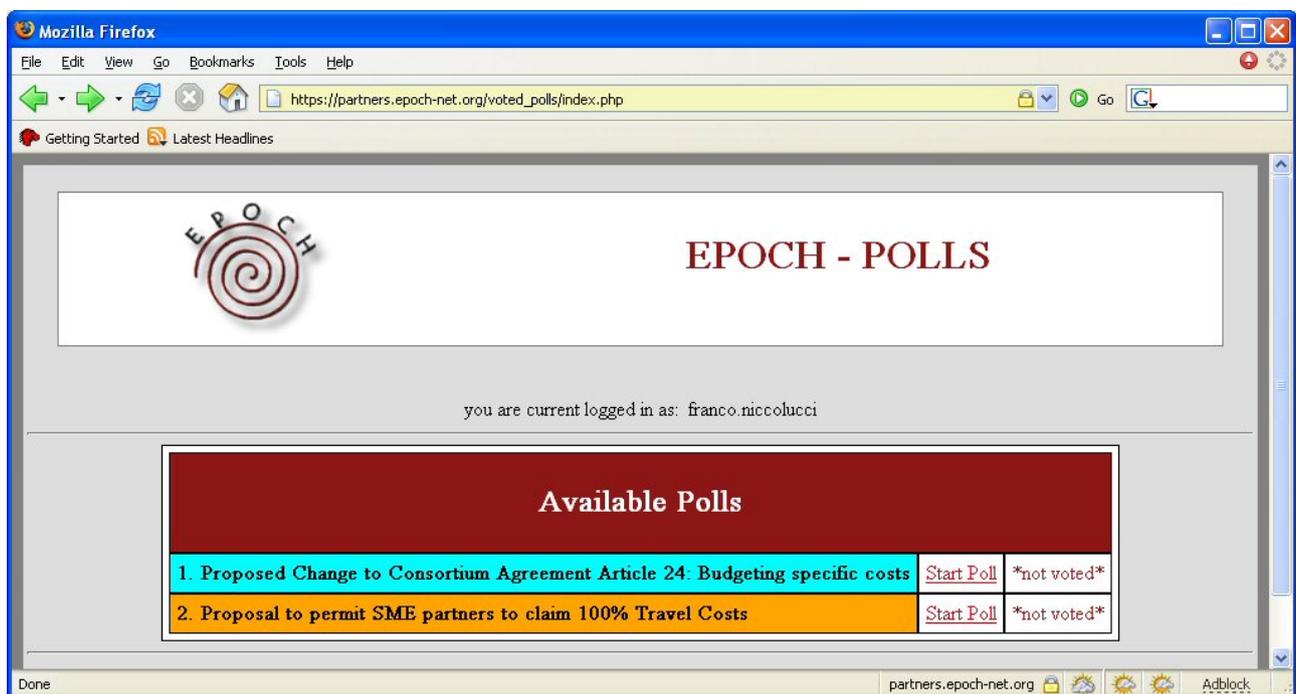


Fig. 19 – A poll start page

The "\*not voted\*" label turns into "\*voted\*" after the question has been voted. The voting page is:

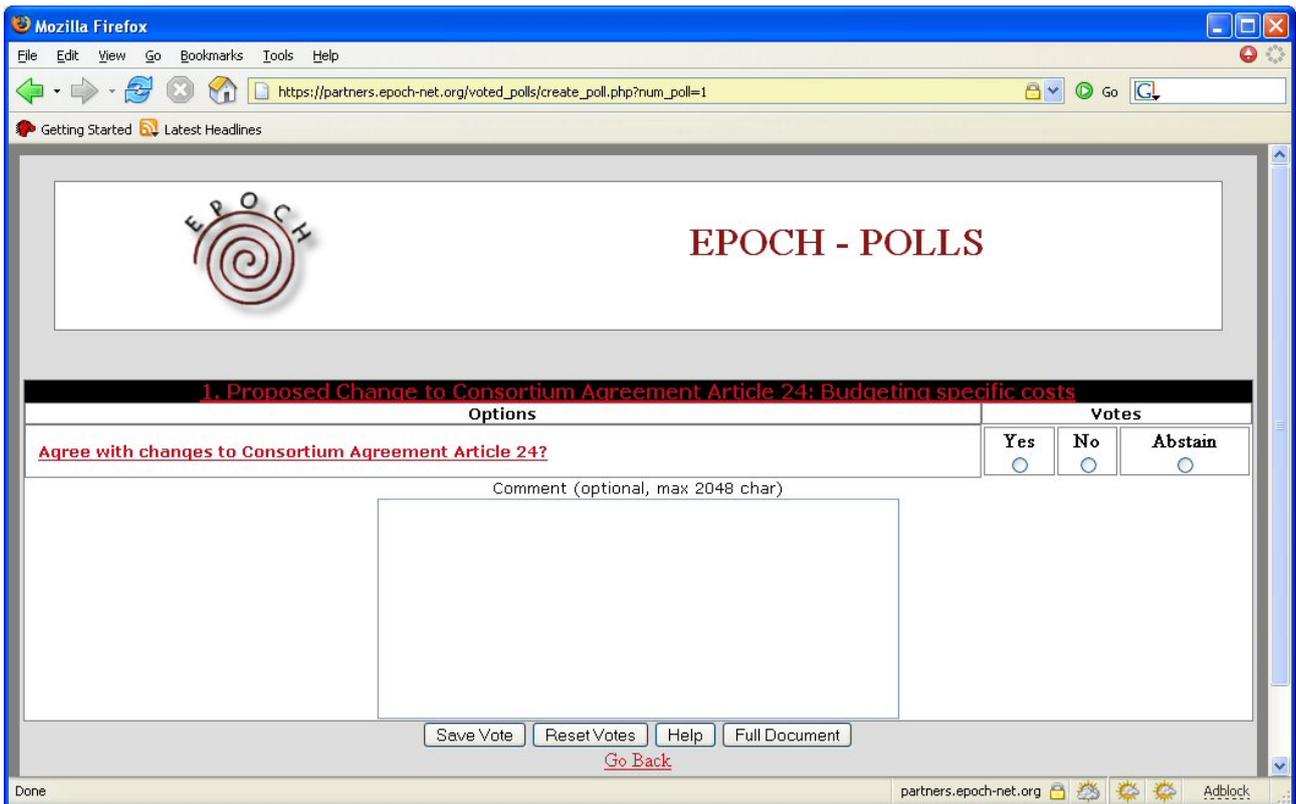


Fig. 20 – The voting window.

The entire question to be voted on may be recalled by clicking on the question.

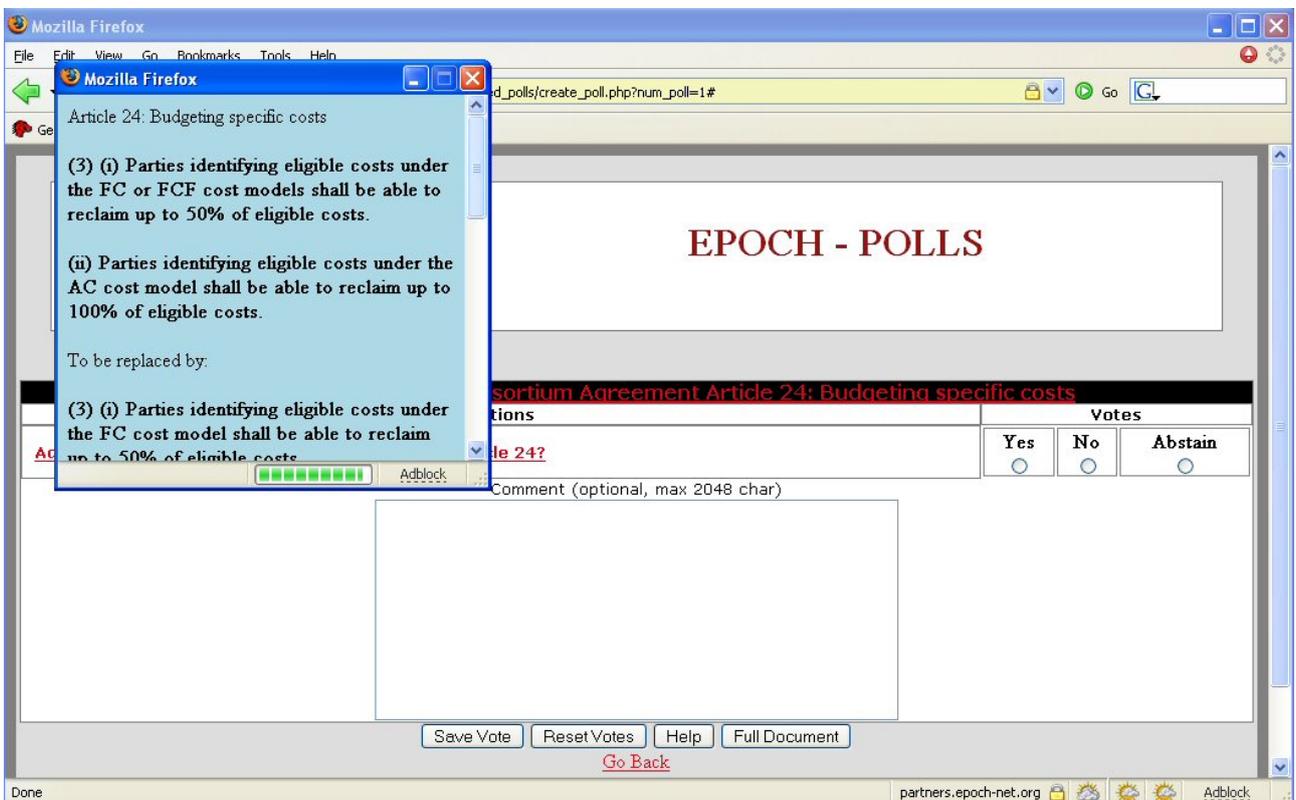


Fig. 21 – Recalling the document to be voted on: this is displayed in a pop-up window.

Voting is expressed by clicking on the radio button relating to the chosen answer, and the text field below the question allows for comments about the issue being voted on.

The vote must be confirmed with “Save Vote”; it may be cancelled by “Reset Votes”; the full document under vote may be accessed by clicking “Full Document” and the “Help” button opens a pop-up window with directions on the voting system and the meanings of the answers.

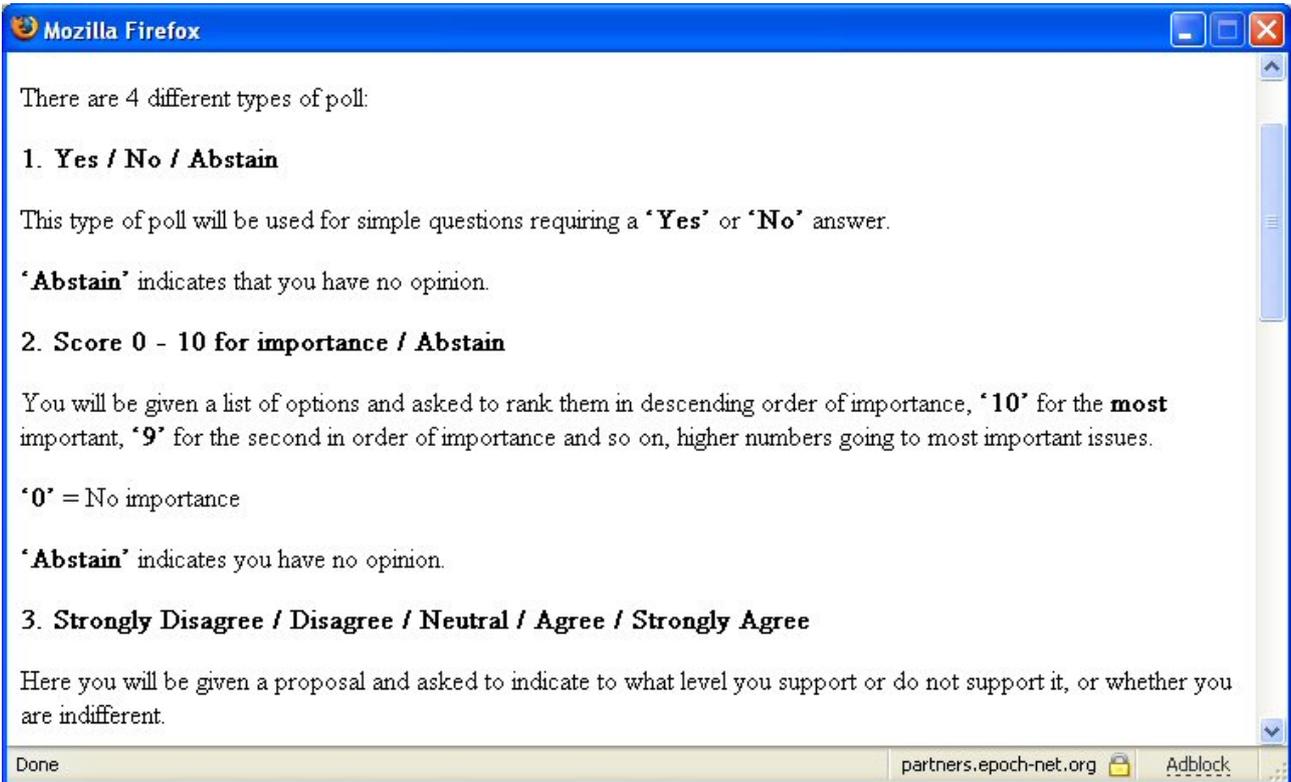


Fig. 22 – The poll help window.

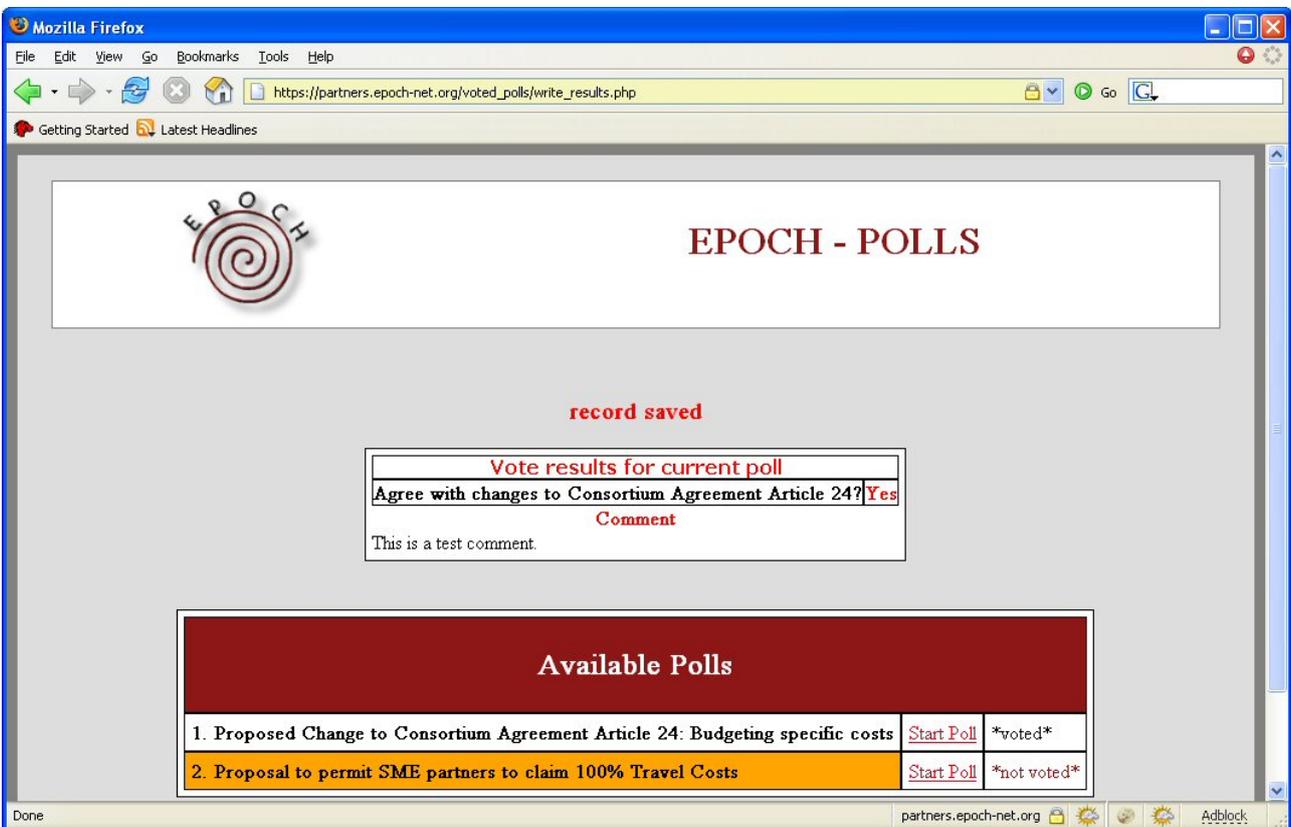


Fig. 23 – The confirmation window, showing the vote and the comment

## 7. Feedback by users

As has already been mentioned, feedback by users is expressed using the email address provided expressly for this or by emailing components of the web staff directly. An opportunity for providing feedback was been the poll held in January, where a set of questions concerned the web site and partners were asked to express their opinion on future directions for the site.

The first question concerned managing the brokerage service only as a web service. This was favoured by a large majority of voters (81%), and this implies that partners will also commit to updating the database information in order to make it really useful. Information will mainly concern skills, scarce facilities (i.e. unusual equipment owned by partners and large scale facilities). It is envisaged that the information already present in the brokerage database – updated and possibly extended with additional fields – may be immediately usable for the purpose.

The second question concerned the establishment of a task force external to the web staff to monitor the EPOCH site and advise on improvements. This was welcomed by the web staff, and the majority (75%) of voters confirmed this. There was, however, a small percentage that did not consider this issue as much of a priority as the previous one.

The third question concerned the provision of services. Documentation (8.34), datasets (7.76) and software (7.71) were ranked higher as repository content. This perhaps means that people probably know where to download software but are really in need of getting access to documentation. Therefore, there will be a substantial effort in improving the volume and quantity of documents available on the web site.

The fourth question was about events and news services. Both were considered important, but events (8.15) more than news (7.76), confirming the impression already mentioned of the use of these services.

The last question concerned the establishment of operational areas, in general approved by all the voters, who ranked it highly.

Some relevant comments were as follows:

- “The website should be monitored to ensure it is effective in disseminating information.”: well, it is, see the next section – probably the access statistics should be summarized and made available to partners.
- “The Epoch website should be the FIRST place partners look for help for a forthcoming project or information about what current activity is!”: this comment perhaps includes some kind of polite criticism on timeliness of information, and will be taken into account when improving updating information. It is also planned to establish a “what’s new” section in the partners’ area.
- Very few comments showed generic dissatisfaction or lack of clarity about the issues, probably they are part of the physiologic degree of unhappiness every service has among its users.

One of the tasks to be undertaken in the future consists of verifying the access to individual pages and a gross estimate of partners’ access. The latter requires keeping a log of the IP from where a partner accesses the site and then periodically tracking back these in the general access statistics that do not distinguish between partners’ and generic users’ IP. Some programming and some manual work are necessary and both will start soon.

## 8. Access statistics

As has already been mentioned, access statistics are provided by *awstats* based on the server logs. They may be accessed with no restriction at [www.epoch-net/cgi-bin/awstats.pl](http://www.epoch-net/cgi-bin/awstats.pl). The software offers a variety of statistics on a monthly, daily or yearly basis.

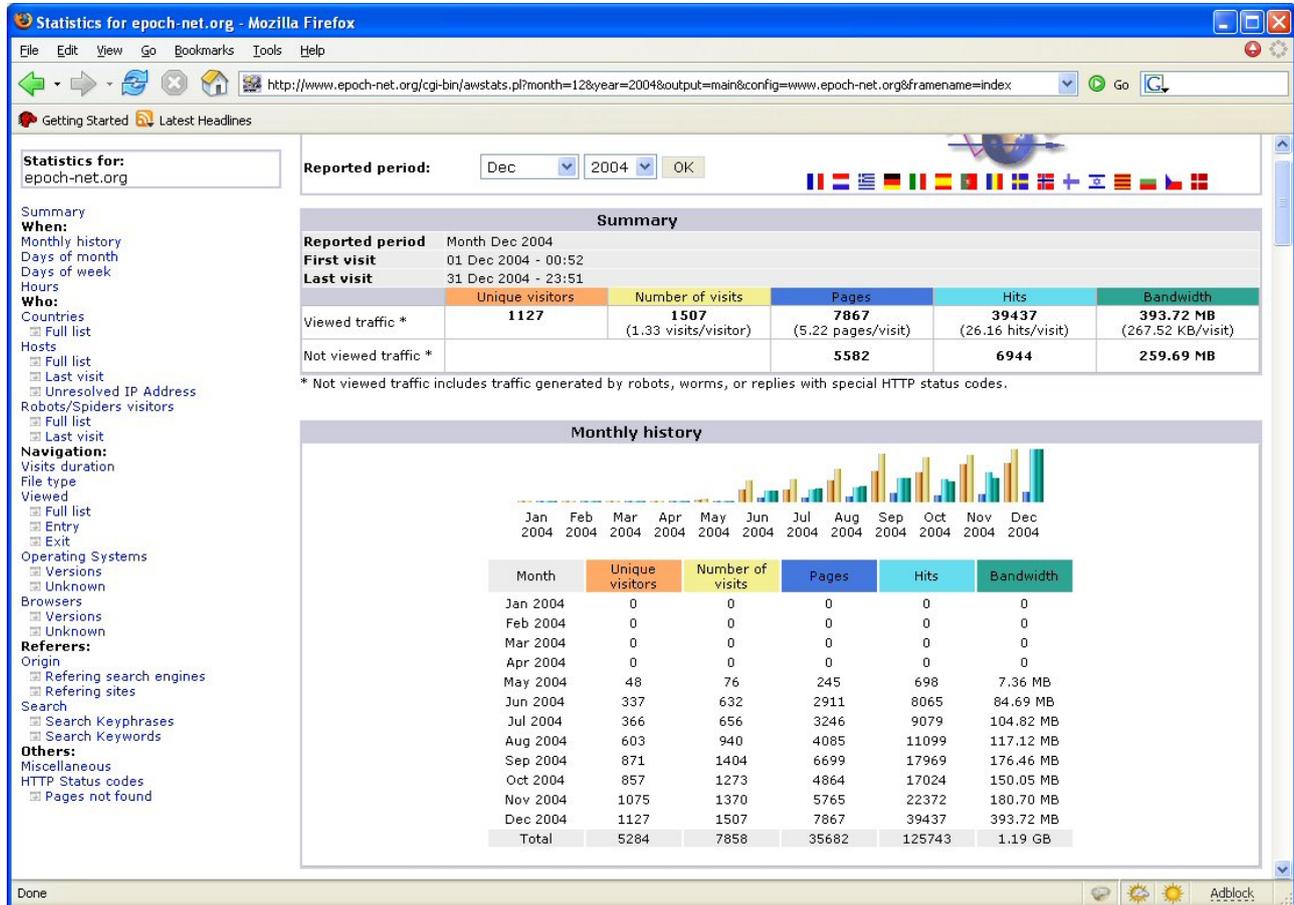


Fig. 24 – Statistical data for the year 2004..

Since the reporting period of the present report (15 March 2004 – 14 February 2005) does not coincide with any of the reporting periods of the package, data will be reprocessed here for the period June 2004 to January 2005. As shown in the above picture, data concerning May 2004 has been collected only in the last few days when the web site was still in an experimental stage and so has little significance.

Current statistics are however available for control on the above mentioned pages.

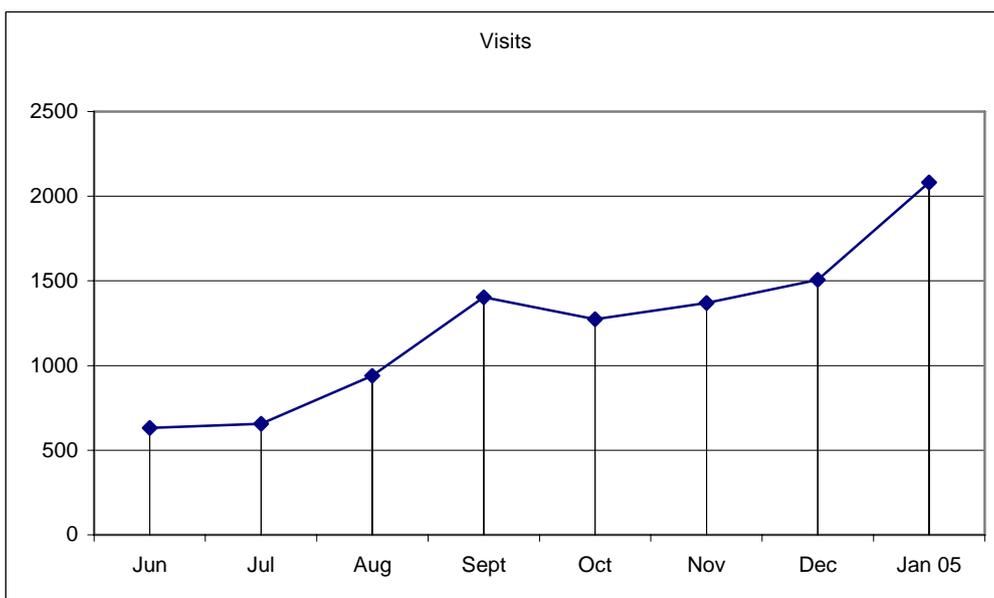
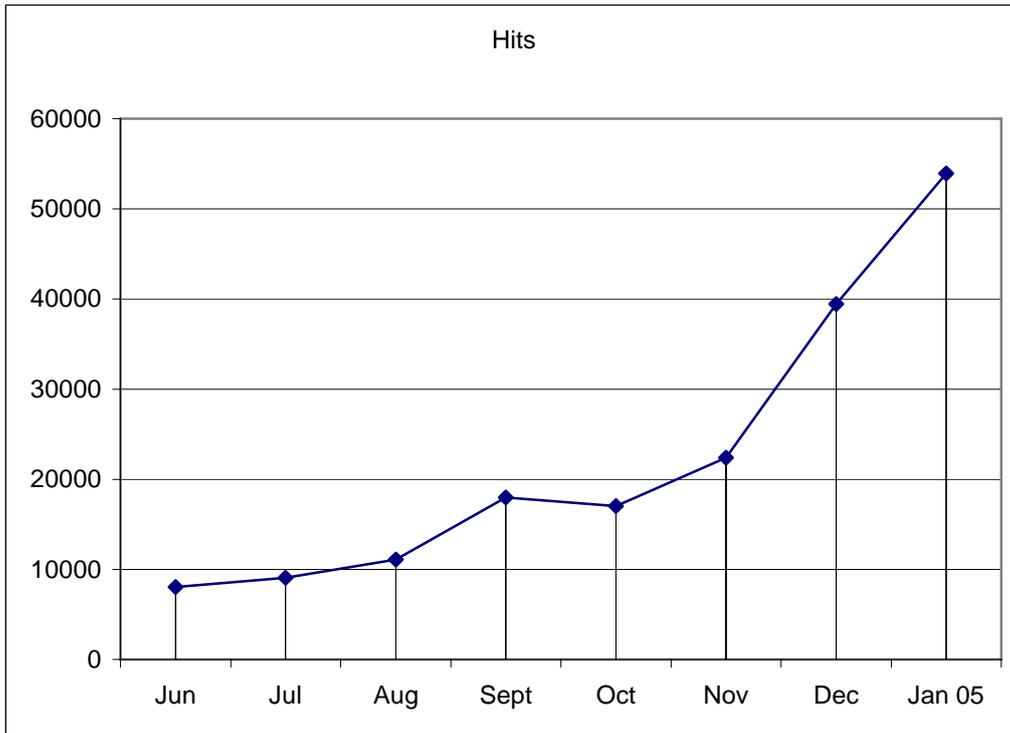
The software computes the following statistics:

- Unique visitors (according to the IP)
- Number of visits
- Number of pages visited
- Hits
- Bandwidth (i.e. volume downloaded)
- Provenance countries
- Provenance hosts
- Operating systems of visitor and Browser use for the visit
- Referrer (search engine and/or link)
- Search keyword or keyphrase
- Other miscellaneous

## 8.1 Visits and hits

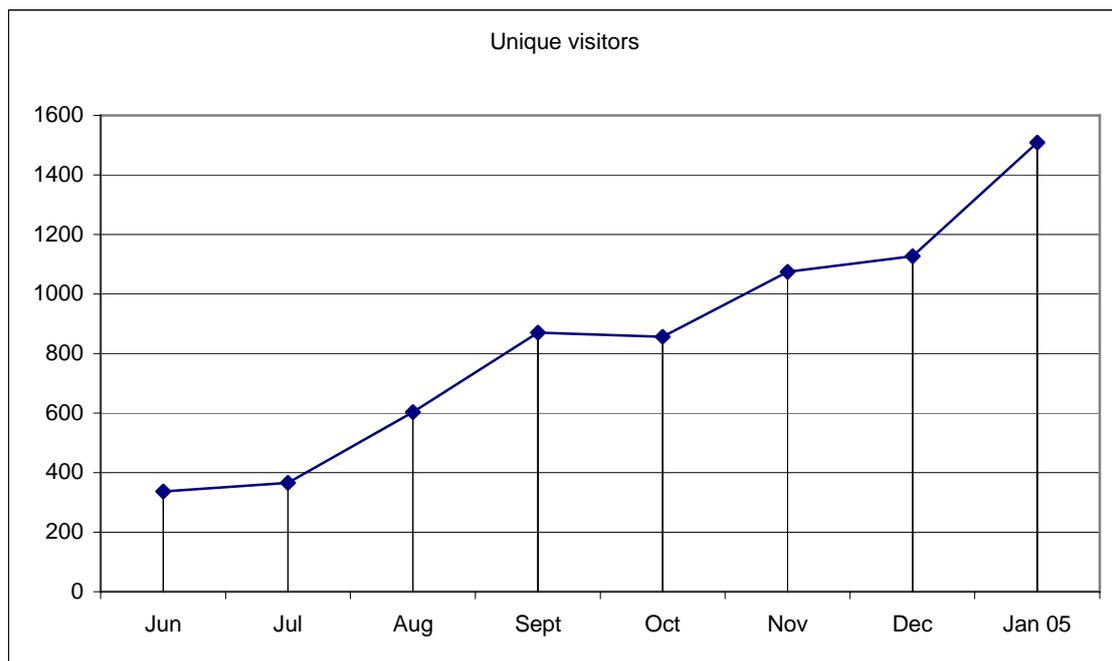
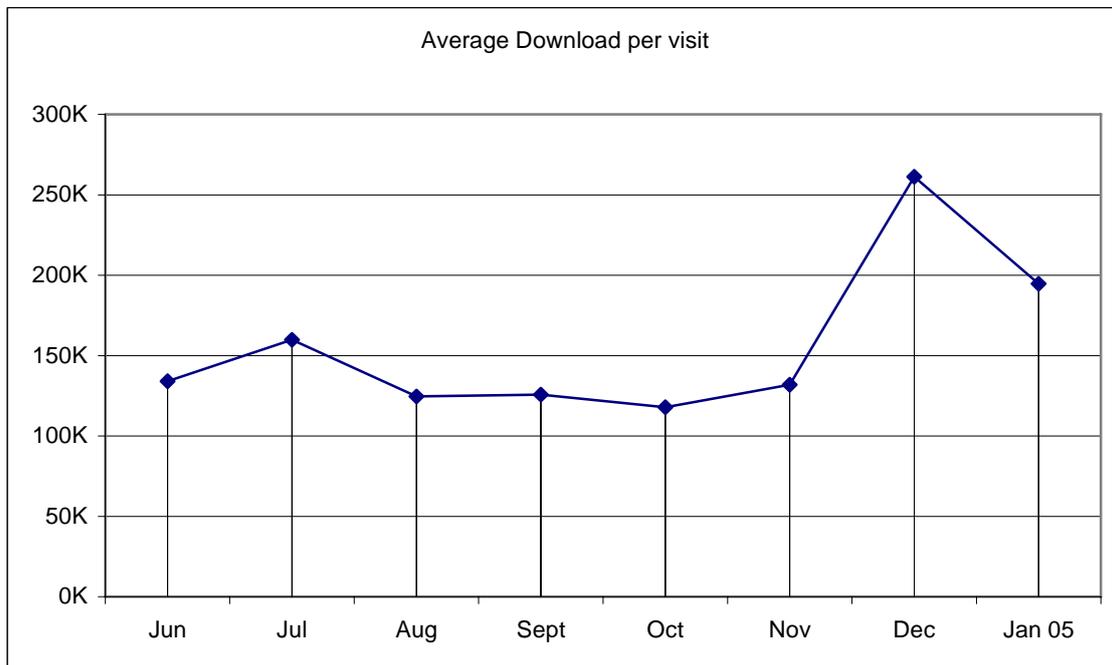
The monthly number of hits is shown in the table below. The total number of hits in the reporting period (until 15 February 2005) is 206.646, with a total download of 1.8 GB.

Month	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Jan 05
Hits/month	8.065	9.079	11.099	17.969	17.024	22.372	39.437	53.938
Visits/month	632	656	940	1.404	1.273	1.370	1.507	2.081
Download/visit	134K	160K	125K	126K	118K	132K	261K	195K
Unique visitors	337	366	603	871	857	1075	1127	1509



The graphs clearly demonstrate a rapid increase in the number of hits, probably related to the amount of available information, the restart of Network's activity after the summer vacation, and of course the improved quality and richness of the web site.

As far as bandwidth is concerned, the third line of the table confirms that the download is related to the presence of new material, as probably happened in December for the presence of VAST-related material, while in January, visits are possibly related to polls and so the download rate decreases.



Daily averages confirm these results:

Month	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Jan 05	Period
Ave. hits/day	269	293	358	599	549	746	1272	1740	731
Ave. visits/day	21	21	30	47	41	46	49	67	40
Ave. visit time (s)	376	354	386	423	323	272	311	414	

Additionally, about 50-60% users stay briefly in the site, more than 40% remain in it longer, and 30% remain for several minutes.

Additional information about visits is provided by the statistics on hits, visits and download volume by days of the month, days of the week and hour of the day, here shown only with histograms.

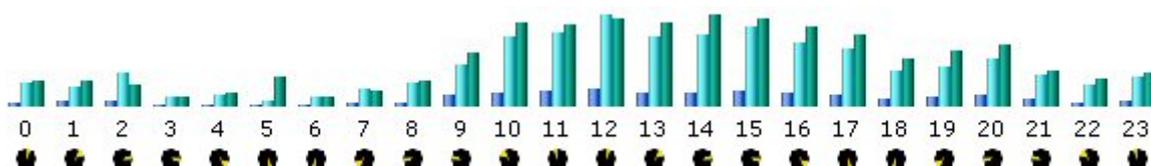
The following graph shows access in December 2004 by day of the month (respectively, no. of visits, pages visited, hits and downloads).



The trend is confirmed by averages by day of the week:



Access by hour of the day confirms that most accesses take place during working hours but have a non-zero tail in the after-dinner hours, possibly accesses from USA or from European homes (reference time is CET)..



All the above data refers to December 2004. January 2005 shows a similar trend, with some concentration due to the polls that took place in the central week and had some small influence on access statistics.

## 8.2 Visitor provenance

The statistics package allows some provenance analysis based on the domain of the user, as announced to the server. This is a rather good approximation of country provenance, except possibly for .com, .net and .org domains that may be used by several organizations outside US. Thus only .edu, .mil and .gov will be referred to USA even if this will lead to an underestimate of accesses from there. Additionally, also .us servers must be credited to US servers.

So the provenance of 15061 hits cannot be safely identified and will be subtracted from the month total. As far as Italy is concerned, accesses from the hosting institution may account at most for the highest value for interbusiness.it (the provider of Internet connectivity to the PIN partner and the largest commercial Internet provider in Italy) connections, that is 487 hits; other Italians refer to different partners as unibo.it (University of Bologna), univpm.it (Polytechnic of Milan), uniroma3.it (3<sup>rd</sup> Rome University), libero.it and tiscali.it (two other commercial providers), or other customers of interbusiness.it as shown by the different origin servers. .int accesses come from the Brussels and Luxembourg servers of the European Commission.

The table on the next page shows the different countries from which users have accessed the epoc-net.org sites. Europe has an overwhelming majority (94%).

Domains/Countries		Pages	Hits	Bandwidth	
Italy	it	1140	5486	41.83 MB	
Belgium	be	935	4746	50.22 MB	
United Kingdom	uk	713	2603	35.48 MB	
Netherlands	nl	273	1660	11.49 MB	
France	fr	267	2234	12.59 MB	
Switzerland	ch	151	979	8.44 MB	
Germany	de	144	680	9.33 MB	
Greece	gr	109	756	7.60 MB	
Norway	no	108	420	5.89 MB	
Australia	au	66	406	3.80 MB	
Hungary	hu	61	431	2.43 MB	
Spain	es	60	348	5.57 MB	
Romania	ro	60	302	2.06 MB	
Poland	pl	57	265	2.76 MB	
Portugal	pt	56	305	3.00 MB	
Sweden	se	51	398	4.51 MB	
Finland	fi	47	433	3.07 MB	
Canada	ca	46	347	2.79 MB	
Austria	at	44	314	3.40 MB	
USA Educational	edu	41	354	2.92 MB	
International	int	32	213	1.66 MB	
Russian Federation	ru	14	57	940.12 KB	
Mexico	mx	12	93	1.24 MB	
USA Military	mil	10	75	997.46 KB	
Czech Republic	cz	9	33	357.88 KB	
Japan	jp	9	53	1.15 MB	
Yugoslavia	yu	9	31	837.96 KB	
Denmark	dk	7	62	520.94 KB	
Brazil	br	7	28	175.01 KB	
Bulgaria	bg	6	26	430.60 KB	
Turkey	tr	5	52	424.59 KB	
United States	us	5	14	422.84 KB	
Singapore	sg	4	29	259.09 KB	
Slovenia	si	4	24	106.01 KB	
USA Government	gov	3	7	313.14 KB	
Israel	il	2	3	41.89 KB	
Philippines	ph	2	17	73.19 KB	
India	in	2	4	90.38 KB	
Saudi Arabia	sa	2	22	297.15 KB	
Ireland	ie	2	22	297.15 KB	
Croatia	hr	2	4	43.06 KB	
Taiwan	tw	2	2	35.23 KB	
Estonia	ee	2	22	135.41 KB	
New Zealand	nz	2	25	73.41 KB	
Lithuania	lt	1	1	7.75 KB	

Visitor provenance is summarized in the map shown on the next page. The radius of circles is proportional to the number of hits.

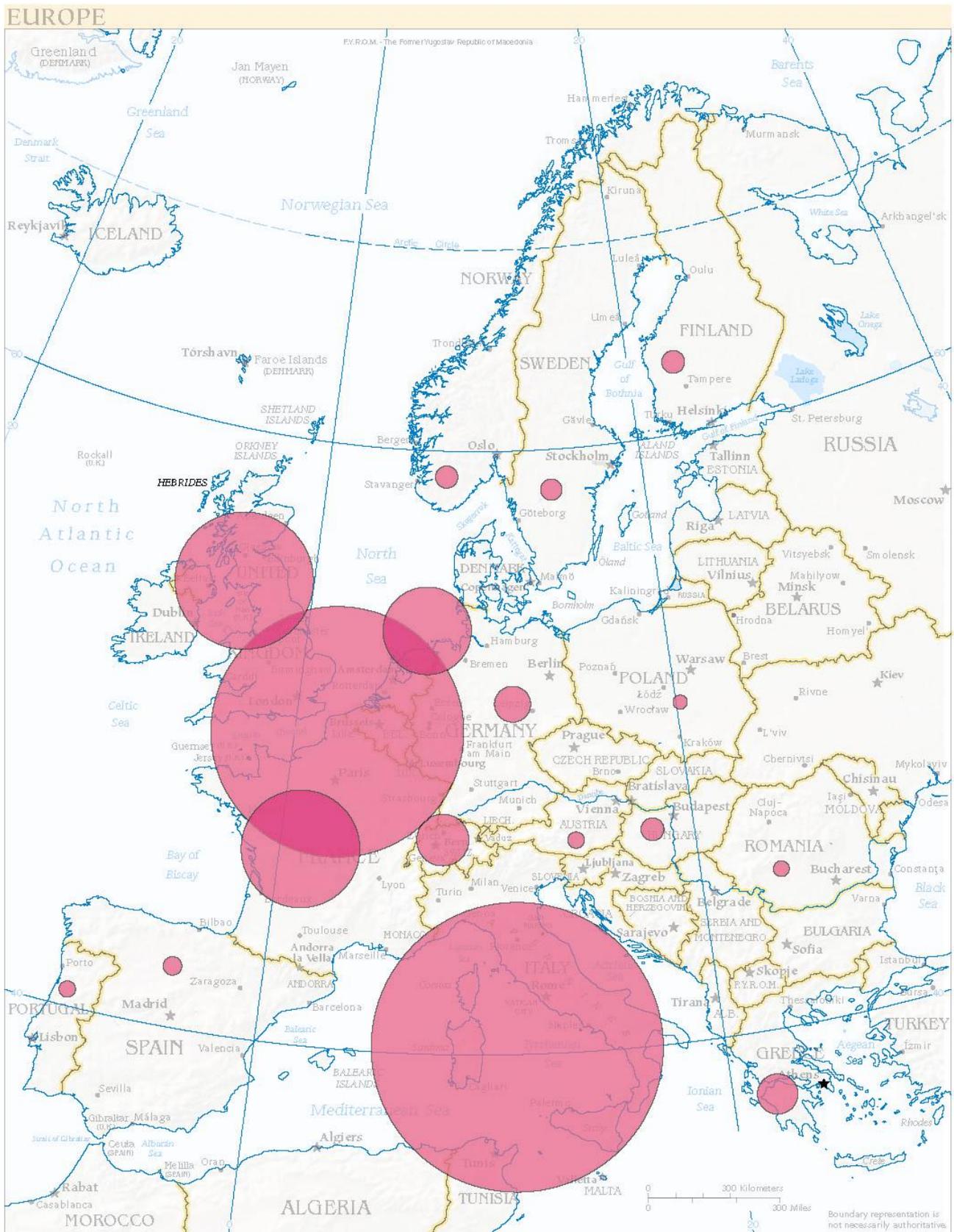


Fig. 25 – Accesses to the EPOCH web site, by originating country

## 9. Development and future plans

The plans for the future include, of course, a continuous improvement of the quality of the information offered on the web site.

For the public pages, this will require conjugating the presence of general information on the NoE, as presently, useful for first-time visitors who we hope will continue to increase, with updates for those who return to get additional information. This will require restructuring the site in order to split very early in the visit these two profiles. On the one hand, new visitors will be able to receive the same kind of general information that is already present on the site and to find it easily if they progress into newer developments and at some point need to refer to the basics. On the other hand, experienced visitors must have the possibility of going straight to the information they are looking for, without being bored by details they already know. The more the web repositories are enriched with content, the more it will be necessary to differentiate the target audience and provide what each visitor is looking for. It is planned that in the forthcoming months the following profiles will start to be considered and be distinguishable:

- The general public and generic culture professionals
- Students, in particular graduates looking for training opportunities
- Culture professionals, looking for information on ICT applications
- Technologists interested in CH applications
- Policy makers, to whom policy implications (e.g. on standardization and digitization policies), socio-economic issues (as analyses concerning cultural economics and business models) and experiences (good practices and applicable models) will in particular, be relevant.

Such a distinction may also be explicit, with direct links to visit routes designed for specific categories of visitors. Also a notification service for new entries may be offered to the audience.

The strategy towards partners will include promoting the available tools and tailoring them to emerging needs. For instance, the project management tool is great in managing joint calendars and in assigning and monitoring tasks; has good multilingual features, but of course content is not translated, so it cannot easily interface with individual calendars (as in principle it could easily do) where people usually note appointments in their native language, and not in English. Only practice will demonstrate how much the overhead of learning and using a collaborative work tool pays back, as we believe, in terms of effectiveness: for teams with a very small number of members, this is far from apparent.

The tools offered here are very intuitive and have been chosen after testing a substantial number of available ones. However, they require a minimum learning effort by the user, and the web site is substantially committed to support such learning activity. Due to the relatively short presence of these tools on the site, partners have not yet had the opportunity of getting familiar with them nor have been necessitated or compelled to use them (as it has happened with the polls). Some informal tutorials given at VAST2004 received a positive feedback and have shown that, once initial inertia in using new tools is overcome and advantages are clearly perceived, people are willing to use them. For busy people, as most EPOCH partners are, urgent issues sometimes leave no time for necessary ones. The web site support will endeavour to reduce the time needed to go and to give good reasons for investing it in practicing the collaborative tools.