

## Electronic Journals and Users: CIBER experience

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### ***Abstract***

**CIBER is a library** consortium which was established in 1999 to share electronic content licensing, to store licensed resources locally, to promote and disseminate scholarly communication among Italian academic communities located in the Centre and in the South of Italy. C.A.S.P.U.R, a Supercomputing Applications consortium, based in Rome has been providing CIBER with the digital platform and the technical and administrative support to run the service. After a brief description of CIBER member institutions, of their user population, the paper reports on statistics journal usage of Ciber members during 2002 and the first 6 months of 2003.

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### **Introduction**

CIBER<sup>1</sup> is the Central - Southern Italian library consortium founded in 1999 by five C.A.S.P.U.R members<sup>2</sup>. Presently comprises 25 Italian universities full members and 4 affiliated institutions: 3 research centres and SISSA- School of International Advanced Studies. The main aims of CIBER are electronic content licensing and loading, preservation, promotion and dissemination of scholarly publishing and training.

CIBER is a self funded, voluntary aggregation of academic and research institutions. Almost all universities in Italy negotiate access to e-journals and to secondary databases on a consortial basis. The consortia are regionally based, CILEA operates in the North-West, CIPE in the Centre-North East, and CIBER in the Centre - South. Often these three consortia conduct negotiations together. No special funds neither grants have been assigned to universities so far by the Italian Ministry of Education, Higher Education and Research (MIUR) to foster access to licensed electronic information resources.

CASPUR, an Inter-University Consortium for Super Computing Applications, based in Rome and funded by MIUR, has played a major role in the field of digital library co-operation in Rome and in Southern Italy. CASPUR in fact provides CIBER with technical support for databases and e-journal access and archiving. It develops tools and solutions to enhance digital library services and administratively handles licenses for participant institutions.

*Emeroteca Virtuale - EV* (Electronic journals library) is the name of the electronic journals library platform used by CIBER members. The EV is a CASPUR operated hardware and software site designed to aggregate licensed e-journals from multiple publishers. The EV was launched in September 1999 with 536 licensed Elsevier titles. Presently it gives access to all e-journals from 6 international publishers, (American Chemical Society, Blackwell Publishing, Elsevier Science,

Institute of Physics, Kluwer Academic Publishers, Nature Group Publishing), for a total of over 4000 (four thousand) titles and 2,500.000 full text articles covering different subject areas: mainly STM and social sciences and scarcely humanities.<sup>3</sup>

All discontinued titles and their past issues stay in the EV, backfiles start at different point in time.

<sup>4</sup> It is accessed with title and subject categories menus or traditional search form options. Other available features include: article alert service, link to CrossRef, to pre-print servers and to CIBER members library catalogs. Links have been also activated from a locally mounted installation of Web of Science and from several secondary databases (CSA; Current Contents; Sci-Finder Scholar; Econlit, Medline; MLA, PsycINFO, etc.) to the EV.

Negotiations continue with other interested publishers.<sup>5</sup>

Not all CIBER members subscribe to all contracts. Not all institutions joined CIBER at the same time. A large majority joined CIBER between 2000 and 2001. Only very few institutions joined in 2002 and just a couple in 2003.

All current contracts are based on publisher's full package except for the Nature Group Publishing contract, based on a more flexible model, and the recently renegotiated Elsevier Science contract. All contracts allow new members to join in later at the agreed conditions.

All members, except three institutions, two small universities with a strong stand on humanities, and one multidisciplinary which opted out due to budget cuts after 3 years, subscribe to Elsevier Science contract. In case of the recently renegotiated Elsevier contract, half of CIBER members (12 members) opted for the UTL (Unique titles list), therefore these institutions have access to their subscribed titles plus a consortial list of 700 titles selected by the universities on the basis of the importance of the journals, Impact Factor, and statistics usage. The remaining Elsevier titles are accessible by these institutions from 1995 through December 2002.

Among the 12 universities that opted for the UTL, some universities (the ones with more journal titles in print) made this choice after a careful study of their statistics usage and with the intention of using saved funds for new contracts, the others (the ones with fewer journal titles in print) were obliged to by the Elsevier pricing model which eliminated the cross access fee and became very costly for universities with few subscriptions.

This new contract has been in place only for few weeks, therefore all the statistics data provided in this article refer to a previous situation when all the Elsevier journals were accessible by all CIBER members. It will be interesting in a year from now to report on the impact of the UTL on users and their information needs.

All the universities and affiliated research centres are public except for one private institution, the universities are mostly multidisciplinary (23) except for the Polytechnics of Bari which comprises only the Faculty of Engineering and the Faculty of Architecture and the University Campus Biomedico of Rome, a medical school. The research centres are in the biomedical and applied sciences areas. The large universities cover all disciplines, the others cover the main disciplines in sciences, social sciences and humanities. The size of these institutions varies enormously, starting from the largest university in Italy, University of Rome "La Sapienza", 5000 teaching and research staff members and over 50.000 FTE, to the smallest one, University of Campus Biomedico, 90 teaching and research staff members and 232 FTE students. There are other 6 universities with 1500 - 2000 teaching and research staff members and a student population between 20,000 and 10,000 all the other institutions have an average of 500 teaching and research staff members or below and students population of 6000 FTE or below.

In brief, the service is available to over 270,00 FTE students, and to about 26,000 academics (full professors, associate professors, research scholars). Due to the Italian education system the service is mainly used by teaching and research staff and doctoral students, undergraduate students are required to read professors lectures notes and assigned reading materials, they are not expected to do any original research until graduation.

## **CIBER experience and Cross Access**

The consortial access to journals has been greatly advantageous to all institutions, especially to the small and medium size ones which could never afford a site licence contract by themselves. In the first Elsevier Science contract (1999-2001) only 780 titles subscribed by CIBER members were accessible between 2000 and 2001. From January 2001 to December 2001, for example, 85% of the articles downloaded by University of Rome Tre (a newly founded university with 8,3% of 780 subscriptions and with almost no backfiles) were published in journals not subscribed by this institution. More interestingly 63% of the articles downloaded by university of Rome "La Sapienza", (an old university with the highest number of subscription titles from Elsevier, 65% of 780, within the consortium) were published in journals not held at La Sapienza.

In 2002 CIBER signed a one year contract with Elsevier Science before entering a new negotiation in cooperation with the Italian consortium, CIPE. During this year all Elsevier journals about 1500 titles (Academic Press and HHS titles were not included in this contract, but in separate contract on Ideal platform) were accessible full text by all subscribing members. The statistical data collected show that these new added titles were not heavily downloaded by CIBER members. This is one of the reason why some of the quite large universities opted for the UTL of 700 titles plus their subscription in 2003. Probably one year access to all Elsevier Science journals is too short as a period to evaluate users' needs and journals usage. In the next two years we will keep collecting statistical data and through surveys, monitoring the institutions which have access to the Elsevier Science journal full package and those that opted for the UTL. It will be interesting to see the impact on two models on users' behaviours.

## **CIBER and the big deal**

Starting from 2001 all the other new contracts (except for the ongoing Elsevier contract) are based on the publisher's full package. CIBER decided to experience this approach for the following 3/5 years while closely monitoring usage statistics. The main reason for embracing the "big deal" approach in a short and medium term was to expose the Italian academic community to a larger offer of scholarly journals, to promote and to expand the use of e-journals, to better understand their need for information. In Italy traditionally university libraries have never had collection development policy. Librarians in most cases have never played an active role in selection policy. These activities were and to some extent are still considered professors' tasks.

Monographs and journals are often selected and purchased by departmental libraries committees without any real planning, on the basis of colleagues requests and department research activities, importance of the journals and above all on the basis of library budget. Until recent years there were many journal duplicates, triplicates within the same university, often with the same Faculty, furthermore journals holdings data were often never collected centrally. The digital era and the library budget constraints brought about same changes. An urgent need was perceived to rationalize and to collect centrally library serials expenditure data, to cooperate and to share resources with other university libraries.

Given this context, access to full package was considered a good approach to start with it. Furthermore it was decided to monitor usage regularly and to carry out user surveys, web questionnaires and interviews to measure users' attitudes, behaviours toward e-journals every two/three years. The first sets of analyzed data gave good indications and insights on users' need and expectations and will contribute to design new contract models.<sup>6</sup>

## Statistics usage

The EV platform web log files are processed through scripts that allow data cleaning, eliminating dirty data (e.g double, triple clicks, etc) and other inconsistent users' behaviours data. A well known commercial statistical software is used to run these operations and to aggregate data. The CASPUR statisticians working group is responsible for all these activities. Usage statistical data from publishers whose licensed content is not loaded locally are not included in our reports, they are delivered to the institutions as provided by the publishers.

The data reported in this paper refer to EV e-journals usage during 2002 and the first 6 months of 2003 and refer mainly to Elsevier Science, Kluwer Academic Journals as those two publishers are subscribed by almost all institutions. Although CASPUR collects data since the end of 1999, the EV reached a stable number of participant members at the beginning of 2002. Therefore data from this period are more consistent and comparable.

The number of articles downloaded is constantly increasing. Between January 2002 and June 2003 the EV platform has been accessed by over 19.000 single IP addresses. Access is based on IP authentication; username and password are used in case of registration for specific services. So far we have no data on access to the EV by communal workstations. Our guessing is the regular EV users access the service from his/her personal workstation.

A web questionnaire survey recently conducted from March 5 through April 15 2003 confirmed our guessing, 70% of 1130 respondents use their personal workstations to connect to the service. The survey also showed a general acceptance of e-journals and the growing preference for the electronic format in comparison to the print format. Over 58% of respondents were either researchers, or associate professors, or or full professors. Almost 77,8% of respondents read the EV e-journals at least once week.

The average article downloading in February 2003 reached almost the number of 2500 articles a day. In March 2003 over 4500 articles were downloaded per day. The total number of articles downloaded in February 2003 was over 66600, in February 2002 was over 46000 articles. (Chart 1) The EV usage is strictly related to the academic year teaching activities, it reaches its highest peak in winter and early spring time, goes down to a remarkable low use in August, it slowly resumes to its normal level between September and November, and again decreases in December. During the period July 2002 -June 2003 the number of Elsevier Science, Kluwer Academic Publishers titles downloaded by each institution compared to their titles held in print were quite amazing. Almost all titles loaded were downloaded by the largest institution, University of Rome "La Sapienza": 2078 out of 2520 titles. On average the institutions held about 150 titles in print and downloaded slightly over 1150 titles each. These data might show a lack of a good serials acquisition policy in some cases, above all they indicate that users take seriously advantage of a larger offer of licensed quality e-journals at least in the first years of access. (Chart 2.)

The Elsevier Journals (excluded AP and HHS titles) were by far the most downloaded journal titles during the period January 2002- June 2003 compared to Kluwer Academic Publishers, whose licenced full text journals are as well loaded on the EV and are accessible to the majority of CIBER members. The articles downloaded from Elsevier Science Journals were 850,890 during this period of 18 months and 66,622 articles were downloaded by Kluwer Academic Journals. (Chart 3.) The chart shows an increase in downloading for both publishers.

It must be said the EV users have dual access to Kluwer, the EV platform and the publisher's web site, whereas they have only one access to Elsevier journals, the EV. The journals statistical data provided respectively by Kluwer were not added to EV datasets, as our study was limited to the EV platform. Therefore the Kluwer Academic Journals usage including their website statistisc might reach 80,000 articles downloaded.

The EV users tend to use the EV platform rather than the publishers' web site as they take advantage of searching articles from different publishers by using the same interface and often using federated search.

Users generally connect to publishers' website in case of incomplete issues or to look up other services offered on the publishers' website and while they do so, they download articles. (Kluwer) In the future Kluwer Academic Publishers data will be included in our statistical data analysis, we look forward to having better statistical data from publishers, possibly COUNTER compliant.

The EV is a 24/7 service; as Chart 4 shows EV users read and download journals during office hours between 9 am and 7 pm, with a peak time between 11 am and 12 pm. (26 %).

Many professors and researchers have remote access to the EV from their homes through the university networks via modem. Most of CIBER universities do not use secure proxy server, therefore they don't allow users to access to the EV through private Internet Providers via ADSL.

Having said that, the majority of researchers and associate professors in the STM areas affiliated with CIBER universities tend to go to their offices or laboratories every day whereas professors and researchers in humanities and social sciences tend to work at home or in libraries. It seems that scientists don't use the EV at home because they do not need to do so, although some of them would appreciate to have a better connectivity from their homes. In this respect social scientists and humanists are different, the ones are more keen to use e-resources would appreciate to have a secure and faster access from their homes. As well scientists would appreciate a secure remote access when they are out of the country and are not allowed to use the EV service. The remote access has not been perceived as a strong need so far, it will be addressed as an issue in the near future when more journals in the humanities and social sciences will be available through the EV platform.

Our web questionnaire confirmed the results of the web log analysis, scientists connect to the EV from their offices, from their personal workstations and tend to use less and less the physical library, especially, scholars from the biomedical area.

## **Conclusions**

CIBER statistical data confirm the e-journals usage is constantly increasing and if new journal titles from other publishers are made available through the EV platform, the use of e-journals will increase more.

The big deal approach definitively seems to be a right choice to make at an early stage. In case of CIBER it attracted more universities and more users to the EV. The new Elsevier contract will give CIBER the opportunity to study the effect of the UTL model in 12 universities and monitor the big deal approach in the other 12 institutions.

There are still a lot of potential users which have not been reached yet, there is still some cultural resistance to e-journals especially in the human sciences. More outreach and marketing activities need to be carried out by CIBER librarians in order to promote and disseminate use of licenced and open access journals; more social sciences and humanities journals need to be covered, possibly in other languages than English, preferably in Italian.

More in depth studies will be conducted in the future when more data, covering a longer period of time, are going to be available. Furthermore if statistical datasets downloaded by publisher's website will improve and will be comparable to EV data, they will be used in future reports.

Usage monitoring together with studies on the EV users' behaviours, attitudes towards e-journals and e-content resources, in general, on their modes of searching, browsing, reading,

communicating in the different subject areas will help CIBER make better decisions on electronic access licensing and better serve its academic and research community.

We are only at the beginning of the process of collecting and analyzing different types of datasets, this report is just the first step.

## Notes

<sup>1</sup> Coordinamento **I**nteruniversitario **B**asi Dati & **E**ditoria in **R**ete: <http://ciber.caspur.it>

The affiliated institutions do not belong to CIBER, though they purchase their e-resources through CIBER. SISSA is the only institution based in the North-East of Italy. Among the affiliated research institutions it is worth to mention Istituto Superiore di Sanità- the Italian National Health Institute.-

<sup>2</sup> C.A.S.P.U.R - Consorzio Interuniversitario Applicazioni di SuperCalcolo Università e Ricerca: <http://www.caspur.it>

<sup>3</sup> 2520 titles are available full text through the EV platform (Elsevier Science, Institute of Physics, Kluwer Academic Publishers). Bibliographic metadata of Blackwell Publishing (617 ) and American Chemical Society (30) journals are locally available with a seamless link to full text on publisher's site. Nature Group Publishing titles are available directly on publisher's web site.

<sup>4</sup> Backfiles go back to 1991 (Institute of Physics) to 1995 (Elsevier Science), to 1996/97, ( Kluwer Academic Publishers). Blackwell publishing metadata go back to 1999. IOP and ACS Web archives are accessible through publisher's web site.

<sup>5</sup> Contracts are going to be finalized with Wiley and Springer in the next few months and new negotiations are about to start with other publishers and information providers

<sup>6</sup> Conti, C., Contino, U., Farinelli G., Gargiulo,P., Marquadt L., *Digital libraries and users: an Italian experience.Changes in academic users' attitudes, perceptions and the usage of study and research tools in a hybrid context*. Paper presented at the Conference Toward a User- Centered Approach to Digital Libraries, organized by the University Library of Finland, Espoo 8-9 September 2003.

Chart.1

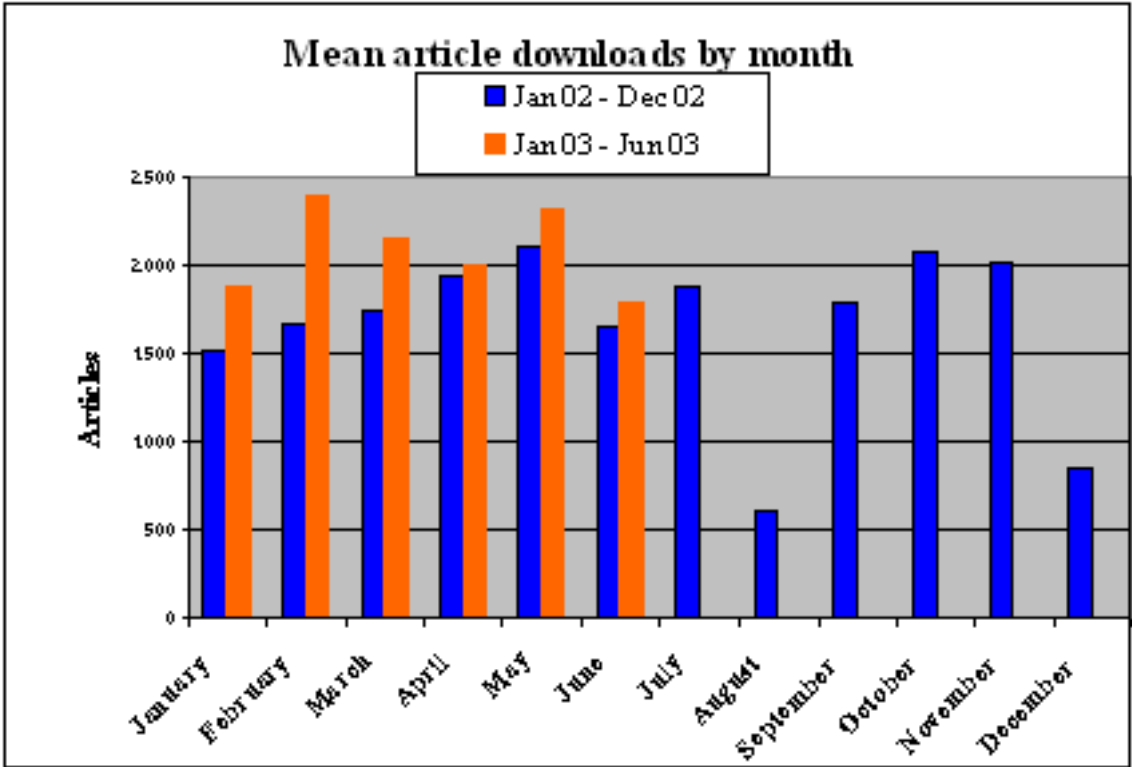


Chart 2.

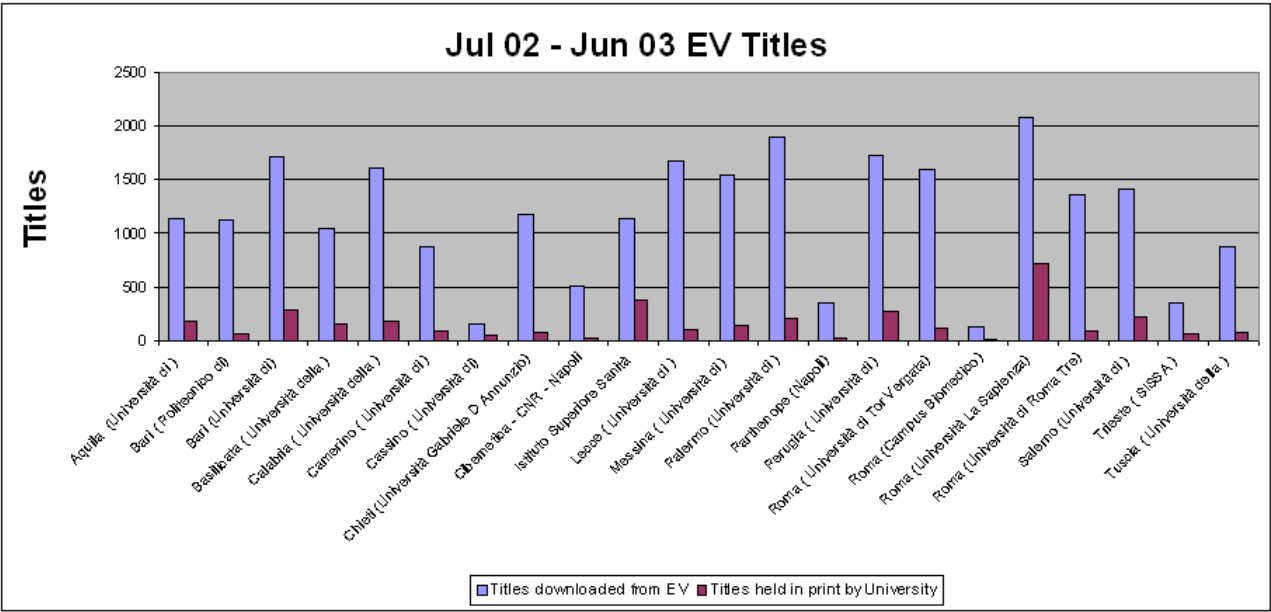




Chart 3.

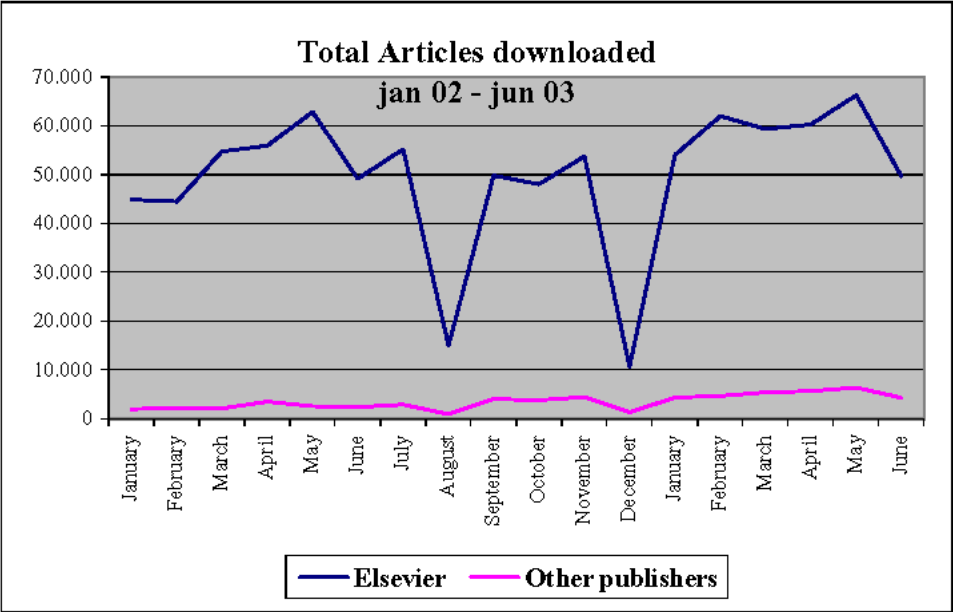


Chart 4.

