Off Campus Access to Licensed E-resources of Library: A Case Study

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ABSTRACT

A case study of off campus (remote) access to licensed/subscribed electronic resources (e-resources) of the Health Sciences Library of Kasturba Medical College, Manipal University, Manipal, which offers diverse sets of electronic information resources for its users, is presented here. User community, residing outside the campus and off campus were disadvantaged by the inability to access library e-resources in their hours of need. Due to the pressing demand from the user community for off/remote campus access to the subscribed e-resources, library initiated the search for an appropriate off campus login access solution and identified EZproxy remote access software as the solution. EZproxy platform provides a single point remote access to various subscribed resources of the library. This article gives various steps involved in the implementation of off campus access facility in the library with its benefits, conditionality for access and technical details.

Keywords: EZproxy, e-resources, off campus access, health sciences library

1. INTRODUCTION

Library is a knowledge centre wherein all the resources irrespective of print and e-resources are stored. E-resources are the mainstay of any modern library in this information redundant era. The exponential growth in the ICT had produced a set of several new terms like paperless society, e-library, Universal virtual library and doorway/gateway[1] indicating its impact on the various fields. There is a striking effect on the users' behaviour in information utilisation because of changing dissemination of web environments with the development of IT. The library users request immediate and suitable usage of information across the time and space limit, which change the library environment.

Now libraries are witnessing enormously increased demand from users' side for online resources and consequently the related activities of acquisition, metadata organisation and system management of e-resources have become a challenging management task. Libraries also face several other issues related to handling different types of publishers, online interface providers, frequent changes in journal titles or issues within aggregated databases, and the variety in the scope of legitimate use of each license agreement[2].

Libraries have gone through various stages from document delivery via snail mail to direct remote access by the users with the advent of ICT. Modern library users cannot pass a day without referring to e-resources as they are heavily dependent upon these resources for their academic and professional endeavours. Without providing meaningful ways to access the stock of its resources by the users, the library's collection holds no value. The users residing inside or outside the campus should be able to procure the desired information, which they could access without wasting any time.

Usually in any library, access to subscribed e-resources is made available on IP ranges/intranet environment which is limited to users residing in the campus. Remote or off campus access to e-resources among user community wherever they reside is the priority of the library. Remote access to e-resources is a best practice of libraries because it offers opportunity for the best use of the e-resources, which is one of the objectives of a modern library. Remote access offers easy access of multiple resources subscribed by the library through its interface making simpler the task of the users[3].

2. KMC HEALTH SCIENCES LIBRARY

The Kasturba Medical College (KMC), Manipal, was established in 1953 with an excellent Health Sciences Library for its users. Currently, KMC Health Sciences library caters to the needs of Medical, Dental, Pharmacy, Nursing, Allied Health Sciences and Life Science institutions. The Health Sciences Library subscribe 9 online databases (full text and bibliographical), 575 online journals and 151 e-books of various publishers for the users. E-resources Management and Search Solutions (ERMSS) help libraries to keep track of electronic information resources including e-journals, e-books and online databases both licensed and those available through intranet and Wi-Fi technology[4].

3. REMOTE ACCESS SOFTWARE EVALUATION

The KMC Health Sciences Library makes available subscribed e-resources to its users through the library portal. A user had to be stationed within the university premises to access library subscribed e-resources before the implementation of off campus facility.

Increase in demand from the users staying outside the campus for the remote login access of library subscribed e-resources, was an important aspect of library services. For accomplishing this task, library management searched for an innovative service that provided information in a manner appropriate for library users. Many challenges for providing remote access of its licensed resources to the users began with selection of appropriate remote access software available in the market, security of library subscribed collections, preventing unauthorised users from gaining access to the licensed resources and problem in link resolver setup to mention a few. The library initiated the search for an appropriate off campus login access solution among a number of remote access software available in the market viz., CC Proxy, Squid Proxy, RHN proxy, EZproxy, and open source remote software. The installation of free/open source remote software (Dayon, UltraVNC, TightVNC, etc.) was ruled out in the first stage due to the lack of after service facilities.

A brief description of the different remote access software and their support of different operating systems for their evaluation of suitability is:

- CC Proxy backs all windows operating systems but is not compatible with linux operating system[5, 6]. CC Proxy recommends a minimum of Pentium II CPU or equivalent with and 512 MB of RAM but more load balance is not supported on CC Proxy[7].

- The Squid Proxy server supports Linux and UNIX platforms only. It supports the File Transfer Protocols, Gopher and Secure Sockets Layer but it does not support other internet protocols, such as Real Audio, news, or video conferencing[8]. For Squid proxy, 32 MB of RAM are required for every GB of disk space. If run out of memory there will be a significant reduction in speed.

- RHN proxy server is supported with Red Hat Enterprise Linux 5 and 6. The hardware configuration requires a Pentium IV processor or equivalent with 512 MB of memory and 6 GB storage per distribution[9].

- EZproxy supports three operating systems such as Linux, Solaris, and Windows[10] and recommend a minimum of Pentium II 400 with 256 MB of RAM[11].

The technical division of KMC Health Sciences library identified that EZproxy remote access software from OCLC (Online Computer Library Center) is more compatible with the existing computer and other infrastructure facilities of the Health Sciences Library of Manipal. The library approached OCLC and subscribed EZProxy software to provide remote login access solution.

4. OFF CAMPUS ACCESS TO E-RESOURCES/ USING EZPROXY

The EZproxy technology plays a vital role in accessing the library material off-campus by authenticating the users through a password. Proxy servers work between web browsers and server, and acts as an intermediary between the two ends of a user server network connection[12]. This middleware functions by authenticating user against local authentication systems to provide licensed resources based on the authorisation of users. Link resolvers are part of remote access that helps users find the materials they need without having to start a new search in another database[13].

EZproxy provides a mechanism, called SPUEdit, for rewriting URLs and redirecting browsers to the new rewritten URL[14]. The SPU (Starting Point URL) commands in EZproxy are used to configure Shibboleth-enabled resources. They are SPUEdit and SPUEditVar[15]. This service is especially useful while using computers in off-campus berth, internet cafes, etc. This provides a simple system which allows creation of single set of webpages to gain access to licensed databases, both on-site and off-site. It automatically provides links to the vendor site whenever additional links to other free web pages on the intranet is added. Authentication of on-site users is not required, whereas off campus/ remote access users can be authenticated for their affiliation. EZproxy is easy to setup and maintain and more than 2500 institutions world-wide are currently using this system.

4.1 Benefits of Off Campus Access

The licensed resources of KMC Health Sciences library are made available to the users through a

large number of content providers. The EZproxy off campus facility connects to a large number of content providers through a wide variety of authentication services including Lightweight Directory Access Protocol (LDAP), Session Initiation Protocol (SIP), Athens and Shibboleth which reduces the number of authorisations/ passwords and provides a better end-user experience, as one of the benefits of off campus access[16].

Other benefits of off campus access through EZproxy are provision of continuous and reliable access of licensed resources for 24/7 and 365 days, new databases access in short time, translation of multiple languages, generation of usage reports for identification of popular resources outside the library environment, its ability to shrink the size of response that helps to fits information in mobile phone web screen, no additional investment on hardware expenditure incurred and ease of maintenance, etc.

4.2 System Requirement and Installation

EZproxy is supported under three different operating systems: Linux, Solaris, and Window. EZproxy for Linux server recommend a minimum of Pentium II 400 with 256 MB of RAM. For installation 10 MB of disk space is required and user authentication files and server log files needed additional space[11].

4.2.1 Technical Details

Having remote access software installed allows one to access other computers remotely from other locations via the world wide web[17]. EZproxy is a URL rewriting proxy server. Within the config. txt/ezproxy.cfg file, which identifies various hosts that require access from ones local IP addresses. When the user click on a link to an online library resource, remote login access software checks, whether the user computer is on campus or off campus. A cookie is sent to the user's browser whenever the user authenticates successfully allowing EZproxy to validate user access rights. If the user is on campus, he/she bypass EZproxy and are sent directly to the e-resources of the library. If the user is off campus, user will be required to login with ones' windows using username and password.

4.2.2 User Authentication

The purpose of EZproxy is to create one set of webpages that can be used by both on-site and off-site users to gain access to licensed databases. There is no requirement to authenticate on-site users, but there is a requirement to authenticate remote users to verify their affiliation with their institution. EZproxy provides the ability to detect on-site workstations and redirect the database requests to the concerned database vendor. Table 1 gives

Table 1. List of authentication accessible in EZproxy

S. No.	Items
1.	Blackboard
2.	CAS (Central Authentication Service)
3.	DRA Web2
4.	FTP (File Transfer Protocol)
5.	IMAP (e-mail server)
6.	Innovative Interfaces, Inc.
7.	Insignia
8.	Text file
9.	LDAP (including Active Directory)
10.	SIP (Service Interface Point)
11.	Library card numbers with a specific prefix
12.	ODBC (EZproxy for Windows only)
13.	POP (e-mail server)
14.	RADIUS
15.	Referring URL
16.	Shibboleth
17.	Sirsi Dynix Horizon Information Portal 3.x
18.	Virtual reference
19.	TLC authentication

the list of items which EZproxy can authenticate.

4.3 Terms and Conditions for Subscription of EZproxy

- Installation of EZproxy requires certain ports to be opened, which needs to be ensured by the network administrator.

- Alternatively the 'proxy by hostname' configuration requires certain entries in the NS server which should be ensured by the network administrator.

- Subscription is for twelve months and start from the 1st day of the month of supply, irrespective of the date of supply during the month.

- Access details to download the software would be provided by the publisher directly to the library, within 14 days after the receipt of confirmed order and payment.

- Software is allowed to install on only one server of licensee–single installation.

- Subsequent year's price includes annual subscription to EZproxy and annual maintenance support.

- Library need to sign license agreement with OCLC for the subscription of EZProxy remote access software.

5. IMPLEMENTATION OF EZPROXY

After selecting the remote login access software, next step was its implementation. Trial access for

EZProxy started in July 2013 at the library to test the software and to know how it works in providing solution to off campus access to e-resources. The e-resources are subscribed on single site license at KMC Health Sciences Library and are restricted to Health Sciences Institutions at Manipal campus only. After the successful launch of trial access, EZproxy off campus access to e-resources of Library went live in November 2013.

For remote access link, users who are staying outside the campus/hostel have to fill up EZProxy remote access requisition form and submit to the library for allotting user name and URL. The KMC Health Sciences Library issued username and password through e-mail for the authorised users. To access e-resource when off-campus, user has to open one's browser using 'URL, username and password', it link to the micro site or webpage of the library. EZproxy remote login entree needs no configuration on the user's part. KMC Health Sciences library authenticate its users through library card number. Figure 1 schematically depicts the working of EZproxy. Figure 2 shows login to EZproxy with user ID and password.

5.1 Terms and Conditions for using EZProxy

KMC Health Sciences library has enforced few terms and conditions for using EZproxy to its users. The terms and conditions[19] are as follows:

- Library borrower card holders are eligible for getting EZProxy remote access to e-resources

- PG students, research scholars and faculty who are staying outside the campus and those who are staying inside the campus but not connected to the Manipal University intranet facility are eligible for remote access to e-resources

- Authorised/eligible users have to fill up the requisition form and send to the library through the Head of Department (HOD)

Figure 2. EZproxy remote login page.

- Authorised/eligible users who are not residing in hostels are requested to send the requisition form duly certified by the Chief Warden about their stay

- KMC Health Sciences Library issued username and password through e-mail for the authorised users

- Username and password should not be shared with anyone, and

- The Library will monitor the user's activity regularly to prevent unauthorised usage and multiple login.

6. CONCLUSIONS

The remote login access, EZproxy serves as an effective tool for accessing e-resources for the user community of faculty members, researchers and post graduate students. EZproxy platform provides a single point remote access to various subscribed resources of the library. Thus it facilitates the maximal usage of licensed e-resources in large libraries. The fully-customised software also serves as a comprehensive management tool for remote login search solutions, for speedy and relevant access of subscribed e-resources as well as digitised contents provided by the institution, thus maximising the resource utilisation of the library. The remote login access software also serves the library by
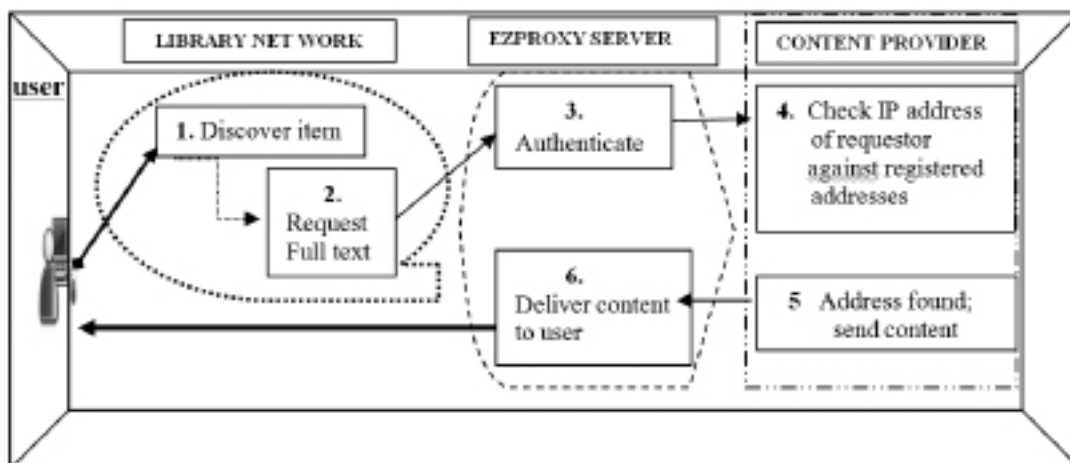

Figure 1. Process of remote access software EZproxy between library network and content provider.

providing cost effective acquisition and retrieval of licensed resources through remote access. This helps to maintain a feasible financial allocation of collection, services and personnel of the library. The implementation of EZproxy remote login access program at the KMC Health Sciences Library, Manipal is a working model for providing the users the convenient and efficient interfaces to access e-resources by keeping pace with the changing technology.

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