Virtual Private Network for E-Resources Sharing: A Case Study.

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Introduction

Seamless access to electronic resources (databases, electronic journals, e-books) to off-Campus is a hectic task for the university library. University central libraries always possess the rich collection of subscribed electronic resources. Accessing of electronic resources in the central library from Off-Campus is always a question mark to the academic community due to the lack of connectivity. Higher education institutions are using VPNs to connect remotely located campuses and share information resources. Virtual Private Network (VPN) is a popular network service to establish a remote secure connection between library users and information services.

Universities and colleges in India access e-resources mainly through e-ShodhSindhu operate by UGC INFLIBNET. e-ShodhSindhu offer 15000 peer-reviewed journals and number of bibliographic databases (INFLIBNET, 2017). University and colleges make available e-shodhSindhu service in campus network via IP-based access. Academic community inside the campus network can access electronic resources from e-ShodhSindhu. All study centre libraries of Mahatma Gandhi University are working in the premises of aided colleges in various places. Internet connection to study centre libraries also provided by hosting colleges. So the study centre libraries are not in a position to get IP-based access of e-resources.

Mahatma Gandhi University Library

Mahatma Gandhi University is a state university established in 1983 in Kottayam district of Kerala state. The library system consists of the central library, twenty-two departmental library and four study centre libraries. Two statutory departments and four study centre libraries located away from the main campus. The university Library possesses a collection of 57,350 books, 2,500 e-books, 2,050 theses and 7,500 bound volumes of journals. In addition to this, the library subscribes 253 current Indian (169) and Foreign (84) journals, 4 Online Databases and 4 Online Journal Archives (MG University, 2016).The Mahatma Gandhi University library has automated using Koha library management system and the library maintains an online PhD theses repository.

Objectives

Consistent access to electronic resources using Virtual Private Network in the cost effective manner is the main objective of the resource sharing channel establishment. The other objectives are:

Make available electronic resources to university study centre libraries outside the campus: Mahatma Gandhi University has 283 affiliated colleges in five districts and 4 study centres [MGU]. Study centre libraries can act as information haven of the academic community from affiliated colleges and research centres away from the main campus.

Availability of e-resources to revive the services from Off-Campus libraries: Mahatma Gandhi University Study Centre libraries possess a small collection of books. The collection is not enough for the information needs of the academic community especially research scholars and teachers.

Attract academic community away from the main campus to the enhanced library services: Study centre libraries are acting as referral libraries and give awareness about the rich collection of Mahatma

Gandhi University central library. In addition, users get the orientation on plagiarism, literature search and reference management software from the central library.

Reduce implementation cost by using Open Source solution: Open Source solutions can lower total cost ownership. Otherwise, the library has to shell out more money for Windows based VPN server.

Create a reliable and secure connection to electronic resources: SSH-tunnelling is considered as one of the best-secured methods to establish Virtual Private Network.

Resources Available

An ideal resource sharing channel is the combination of ICT infrastructure, unlined network and skilled manpower.

Demand from academic community is the main factor for the establishment of a resource sharing channel. The number of research scholars increased in the last few years and they wanted to access e-resources for their research activities.

A basic server computer suitable to act as Linux based SSH server is the main hardware component of the project.

Fortunately, Mahatma Gandhi University got the help of a Linux professional. With his guidance library staff prepared the system for VPN server.

Library staff received support from university authority and academic community to make available VPN service.

For the successful ongoing maintenance of system require tech savvy library staff with Linux knowledge. Mahatma Gandhi University Library has already adopted Linux in library computing purposes. It's not a difficult task for the library staff to operate and access Linux based VPN server.

How does it work?

Linux based VPN (Virtual Private Network) is the main component of the resource sharing channel. VPN is a network service which helps to "establish a secure connection over the non-secure Internet" [Ubuntu Wiki]. VPN establish a private channel between computing devices located two distant places and share data across a public network like Internet. Tunnelling protocols and encryption techniques are using for remote access authentication. Mahatma Gandhi University Library adopted Secure Shell (SSH) protocol to establish an encrypted tunnel. OpenSSH server utility in Linux server facilitates secure and encrypted communication tunnel (Waldyrious, 2015). Data transfer possible through the SSH tunnel between remote computers. User account and password created for each study centre library.

A client program installed in Ubuntu Linux PC in study centre library and Proxy details add in the web browser. User from study centre library has to login to access e-resources from Mahatma Gandhi University Library. The user has to log-in from Linux command terminal for authentication. After successful authentication user can open a web browser to enter into e-resources websites.

Conclusion

Availability of e-resources at Mahatma Gandhi University study centre libraries received much appreciation from the academic community. Virtual Private Network is useful for remote access of e-resources. Proprietary VPN solutions increase the Total Cost Ownership of the resource sharing system. Open Source solutions are suitable for library requirements. Whatever may be the problem statement, it's easy to find an Open Source solution for the purpose. Open Source Software's and solutions are efficient and cost effective. Library professionals have to associate with Open Source software community to keep

in touch with developments in the area. Expertise on Linux operating system is essential for the maintenance of Open Source solutions in libraries. Therefore, training on Linux is essential to library professionals.

References

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