

University of Nebraska - Lincoln

DigitalCommons@University of Nebraska - Lincoln

---

Library Philosophy and Practice (e-journal)

Libraries at University of Nebraska-Lincoln

---

7-19-2021

## Integration of Kerala Academic Library Network (KALNET) and Indian Access Management Federation (INFED) in the Higher Educational Institutions of Kerala: A Conceptual research

Ashok Thomas

*Central University of Kerala, Kasaragod, ashokcuk@gmail.com*

Prasanth MP

*Chinmaya Institute of Technology*

Follow this and additional works at: <https://digitalcommons.unl.edu/libphilprac>



Part of the [Library and Information Science Commons](#)

---

Thomas, Ashok and MP, Prasanth, "Integration of Kerala Academic Library Network (KALNET) and Indian Access Management Federation (INFED) in the Higher Educational Institutions of Kerala: A Conceptual research" (2021). *Library Philosophy and Practice (e-journal)*. 6071.

<https://digitalcommons.unl.edu/libphilprac/6071>

# **Integration of Kerala Academic Library Network (KALNET) and Indian Access Management Federation (INFED) in the Higher Educational Institutions of Kerala: A Conceptual research**

**Ashok Thomas<sup>1</sup>**

Professional Assistant

University Library, Central University of Kerala,  
Tejaswini Hills, Periyar PO, Kasaragod (Dt.), Kerala, India-671320  
Email: ashokcuk@gmail.com

**Prasanth M P<sup>2</sup>**

Librarian, Chinmaya Institute of Technology  
Kannur, Kerala, India- 670007, Email: prasanth@chintech.ac.in

## **Abstract**

*The terms 'Network' and 'Resource' have a wide range of importance in our day-to-day life. Resource Sharing and Information Networking are the two important elements in a modern knowledge society. In India, many library networks are already established, like INFLIBNET, DELNET, KALIBNET etc. Library networks have a greater role in resource sharing through the information networks. Normally, this follows a network of libraries with de-centralization rules & regulations and provides a common platform for libraries and library staff to come together, communicate, and extend help to enhance access to information and fulfil the unexpected demands of users [3]. This article discusses the extension of the current KALNET Consortium, sharing of bibliographical information of print resources to the sharing of e-Resources which include e-journals, e-books, e-databases etc. for the benefit of the students in the Higher Educational Institutions of Kerala. This article suggests that extension of KALNET cooperation to e-resources through INFED to enhance access to information resources to a wide area of users and for speedy document delivery.*

*Keywords: e-Resources, KALNET, INFED, Library Network*

## **Introduction**

Libraries and information centres are the primary source of information to students, research scholars and faculty in universities and all other higher education institutions. Though, libraries strive to provide all the required resources to their users, but unable to meet their complete requirements in spite of spending maximum of their budgets. Moreover, cost escalations of resources and shrinking library budgets and ever-increasing users demands for resources have posing constant challenges to librarians. Further no library is self sufficient to meet the entire research requirements, but relies on sharing the resources among themselves. Resource sharing also helps libraries to meet the gaps in individual library collection and when they cannot afford to purchase resources for their users. In addition to libraries mutually sharing resources, many library resource sharing networks and consortia are formed in this electronic and digital era and helping the member libraries to share their resources and increase the research output of the organization.

Library and Information services are being transformed by technology and they have to adopt to these changes to meet their users' changing needs and growing expectations. The implementations of ICT in the libraries have demanded new forms of library services to get more user satisfaction. Digital library service has evolved after the implementation of ICT in the library and information centres. Technological advancements in information industry and libraries also transformed the scenario of even document delivery services as the libraries are unable to meet the requirement of their library users with their limited resources.

All web-enabled libraries are in an ideal position to provide ILL services to their clientele through modern information communication technology (ICT). ILL services can be rendered more effectively in these days. Scanned articles now can be sent through electronic mail over the Internet. Patrons can also initiate a request that will go immediately to the library that owns the item, effectively bypassing the interlibrary loan unit of the home library. These changes have increased the speed of process of making request/delivery of article and its receipt by the user thereby productivity for library staff is increased and ultimately speedy service to the patron [4].

Higher education sector in India is growing in a faster way which increases the user information needs of all academic libraries. No library can satisfy all user needs itself and most of the libraries are running with shortage of staff. Resources sharing through ILL are the traditional way to meet the extra demands from the users.

Technological revolution gives immunes facility to cater the information needs of the new generation. But most of the e-resources like e-journals, e-books and e-databases are providing services through IP of concerned institutions. Normally no one can access the e-resources outside from the campus. Remote Access is the best way to cater information needs from the outside campus. INFLIBNET provides INFED, a free software, for remote access facility to all higher educational institutions of India.

## **Kerala Academic Library Network (KALNET)**

KALNET (Kerala Academic Library Network), a shared platform for academic resources of libraries, has come into being in the State. Developed by the Kerala State Higher Education Council (KSHEC). The platform brings together 15 lakh titles of 11 universities and 147 libraries.

It's like a DELNET (Developing Library Network) model that links libraries in the country, KALNET is known to be the first such platform for university resources in Kerala.

With a single search interface created using VuFind open-source software, it serves as a unified catalogue to search for items across the collections of different academic libraries in the State. It enables quick searches based on the title, subject, author and ISBN or ISSN codes. In addition to books, other library resources such as journals or periodicals, Ph. D theses, postgraduate dissertations, DAISY Digital talking books (audio books) and various reports have also been indexed.

University of Kerala, Cochin University of Science and Technology, University of Calicut, Mahatma Gandhi University, Kerala Agricultural University, Kannur University, Sree Sankaracharya University of Sanskrit, Thunchath Ezhuthachan Malayalam University, Kerala Veterinary and Animal Sciences University, Kerala University of Fisheries and Ocean Studies and National University of Advanced Legal Studies are the members of this KAL Network.

While data from the libraries of these university have been shared through KALNET, the libraries of affiliated colleges will be linked in the next phase. The council also plans to provide the live status of the availability of library materials. KALNET can be accessed through the council's website <http://kalnet.kshec.kerala.gov.in/vufind/> [6].

## **Functions of KALNET**

- i) Provide Nation-wide Service.
- ii) Institutional membership within the country.
- iii) Individual membership for teachers and research scholars
- iv) Within the network and outside network provide inter library loan facility.
- v) All members to provide document delivery service.
- vi) Cooperation and collaboration with other service centres.
- vii) Other fee-based services.

## **INDIAN Access Management Federation (INFED)**

INFLIBNET developed Indian Access Management Federation (INFED), the first and only Federation in India, that has adopted Shibboleth (a SAML-based) open-source software, for authenticating authorized users from colleges and universities and providing them seamless access to e-resources from anywhere, anytime.

### **Impacts of INFED:**

- ❖ Access to e-resources anytime, anywhere, any device.
- ❖ Member institutions will get off-campus access of their subscribed resources if the respective service provider is a part of INFED
- ❖ Institute can provide protected content to multiple organizations using a single authentication framework.
- ❖ The home institution can control when an identity disclosed, and how much information is revealed.
- ❖ Web-based distributed authentication and authorization services can be used for any other purpose beyond e-resources (Edu Roam).

❖ Many institutions are spending huge money to avail off-campus facility from private companies. By joining with INFED, members will avail this facility almost free of cost.

## List of integrated Service Providers

The below listed publishers provide integrated service through INFED

Sl No.	Publisher
1	<a href="#">ACM Digital Library</a>
2	<a href="#">American Chemical Society</a>
3	<a href="#">American Institute of Physics</a>
4	<a href="#">American Physical Society</a>
5	<a href="#">Annual Reviews</a>
6	<a href="#">ASCE Journals Online</a>
7	<a href="#">ASME Journals Online</a>
8	<a href="#">ASTM Standards + Digital Library</a>
9	<a href="#">Cambridge University Press</a>
10	<a href="#">Capital Market Publishers India Pvt. Ltd.</a>
11	<a href="#">Capitaline</a>
12	<a href="#">CRIS INFAC Industrial Information (CRISIL)</a>
13	<a href="#">ebSCO</a>
14	<a href="#">Emerald Publishing</a>
15	<a href="#">Euromonitor - Passport</a>
16	<a href="#">Faculti Media Limited</a>
17	<a href="#">IEEE/IET Electronic Library (IEL) Online</a>
18	<a href="#">Institute of Physics</a>
19	<a href="#">JSTOR</a>
20	<a href="#">LIGO India - IUCAA</a>
21	<a href="#">MathSciNet</a>
22	<a href="#">Nature</a>
23	<a href="#">Optical Society of America (Optics InfoBase)</a>
24	<a href="#">Oxford University Press</a>
25	<a href="#">Palgrave</a>
26	<a href="#">Portland Press</a>
27	<a href="#">Project Euclid</a>
28	<a href="#">Project Muse</a>
29	<a href="#">Proquest</a>
30	<a href="#">Royal Society of Chemistry</a>
31	<a href="#">Sage</a>
32	<a href="#">ScienceDirect</a>
33	<a href="#">SciFinder Scholar</a>
34	<a href="#">Scopus</a>

35	<a href="#">SheerID Inc</a>
36	<a href="#">SIAM (Society for Industrial and Applied Mathematics)</a>
37	<a href="#">Springer Link</a>
38	<a href="#">Taylor and Francis</a>
39	<a href="#">Web of Science</a>
40	<a href="#">Wiley Blackwell Publishing</a>

## Why Indian Access Management Federation?

The INFLIBNET Centre, as one of its core mandates, provides access to scholarly e-resource to universities and colleges in India under the e-Shodh Sindhu. The INFED is being set-up as a centralized agency to coordinate with member institutions in the process of implementation of user authentication and access control mechanism distributed across participating institutions using standardized rules and metadata for exchange of attributes.

Shibboleth access management model is essentially designed to run in a federated mode wherein individual participating institutions are required to run their own Identity Provider Services for users in their respective institutions. Alternatively, members can use identity provider services offered by the INFLIBNET Centre through INFED. A formal federation is required as trusted interface between the institutions as Identity provider (IdP) and publishers as service providers to ensure use of uniform standards and protocols while transmitting attributes of authorized users to publishers.

Major role of the federation includes development of federation, participating community, provide assistance to member institutions in the process of creation and maintenance of their identity management system, assigning responsibilities to the trusted officers of the member institutions for maintenance of database of users and to manage their identity, processing of participant metadata, overseeing operations of Shibboleth Service platforms, dispute resolution and any other jobs assigned by the National Steering Committee of the eShodh Sindhu Consortium.

The INDIAN Access Management Federation (INFED) manages the trust between all the parties, including member institutions and publishers. It hosts database of authorized users at servers installed at the INFLIBNET Centre in case member colleges or universities do not have their own identity provider service. As such, when a user wants to access a subscribed resource, he / she is directed to log-in on to the Identity Provider Service (IDP) at the INFED. The IDP at the INFED, in turn, authenticate the users and pass requisite attributes about him / her to the Service Provider using associated user's database of institutions. In other words, the Service Provider receives all necessary user attributes from the INFED's Identity Provider Service which it trusts. Attributes passed on by the IDP determines level of access a user gets from the Service Provider (publishers of e-resources).

## Library Consortia

The primary purpose of establishing a library consortium is to share physical resources including books and periodicals amongst members. However, the mode of cooperation has gone under transformation with infusion of new information technology from print-based environment to digital environment. The emergence of internet, particularly the

World Wide Web (WWW) as a new media of information delivery triggered proliferation of web-based full-text online resources.

Consortia in India have undergone a transformation with this infusion of new information technology and the movement from a print-based environment to a digital environment. Library consortia are basically formed to use resource sharing as a means of dealing with increased demand for materials and increased cost for information products. Through consortia, libraries are coordinating their purchasing to provide the best quality and quantity of materials to their clientele at a lower cost. Consortium programs not only contribute e-resources at discounted rates, but they also help to make them available on users' desktops.

Consortium purchasing is assisting libraries to deal with the increasing pressures of diminishing budgets, increased user demand, and rising journal costs. With the welcome development of e-journal content, libraries all over the world are forming consortia of all types and at all levels to take advantage of current global networks to promote better, faster, and more cost-effective ways of providing electronic information resources to information seekers. Looking at the experiences and benefits accrued at the international level, many consortia have been formed in India. Most of these consortia had support from the government either directly or indirectly. These consortia have slowly picked up and have been able to achieve the purpose for which they were established. The objectives for their formation have been similar, although the number and types of libraries and services differ [5].

## **DDR Service @JGate**

The J-Gate@UGC-Infonet is a virtual library of journal created as a customized e-journal articles access gateway and database solution for the UGC-Infonet Digital Library Consortium. It provides article level access to 54000+ journals including 4,000+ open access journals and 8,500+ journals subscribed to by the Consortium and more than 4,500 journals subscribed independently by 26 university libraries.

The J-Gate@UGC-Infonet interface manages ILL e-mail requests for articles that are not directly accessible online and are available only in universities with defined ILL Centres. Each region has one or more ILL Centres. Requested article scan be sent by post or online. By post, the requested articles are delivered to the librarian of the requesting university, and the request status is then updated in the Document Delivery Tracker module of J-Gate Plus; an automatic e-mail is the generated to the requester and the university librarian.

The requested article can also be delivered online to the requester directly and the request status is automatically updated in the system. If a requested article is not available from the ILL Centre, then the request status is updated in the Document Delivery Tracker as "not available", and an automatically generated e-mail reporting the non-availability of the requested article is sent to the user and their librarian. The ILL service is provided free to all members of the UGC-Infonet Digital Library Consortium. Though ILL Centres are providing access to almost all the e-resources subscribed under the consortium they are generously providing this service at their own cost under the inter-library loan cooperative arrangement [2].

## **Proposal for the extension of KALNET to the e resources with the use of INFED**

As per UGC, Kerala state has following universities [7]. Most of them are implemented Shibboleth facility with the use of INFED.

Sl. No.	Name of the Institution	Type of Institutions	URL of INFED
1	Central University of Kerala	Central University	<a href="https://idp.cukerala.ac.in">https://idp.cukerala.ac.in</a>
2	Indian Institute of Information Technology, Kottayam	Institutions of National Importance	
3	Indian Institute of Science Education & Research (IISER)		<a href="https://login.openathens.net">https://login.openathens.net</a>
4	Indian Institute of Technology, Palakkad		<a href="https://idp.iitpkd.ac.in/">https://idp.iitpkd.ac.in/</a>
5	National Institute of Technology, Calicut,		<a href="http://www.library.nitc.ac.in/knimbus.html">http://www.library.nitc.ac.in/knimbus.html</a>
6	Sree Chitra Tirunal Institute for Medical Sciences and Technology, Thiruvananthapuram		
7	A.P.J. Abdul Kalam Technological University		State University
8	Cochin University of Science and Technology	<a href="http://idp.cusat.ac.in/">http://idp.cusat.ac.in/</a>	
9	Kannur University		
10	Kerala Agricultural University		
11	Kerala University of Digital Sciences Innovation and Technology		
12	Kerala University of Fisheries and Ocean Studies		
13	Kerala University of Health Sciences		
14	Kerala Veterinary and Animal Sciences University		
15	Mahatma Gandhi University	<a href="https://idp.mgu.ac.in/">https://idp.mgu.ac.in/</a>	
16	National University of Advanced Legal Studies	<a href="http://idp.nuals.ac.in/">http://idp.nuals.ac.in/</a>	
17	Sree Narayana Guru Open University		
18	Sree Sankaracharya University of Sanskrit	<a href="https://idp.ssus.ac.in/">https://idp.ssus.ac.in/</a>	
19	Thunchath Ezhuthachan Malayalam University		
20	University of Calicut	<a href="https://idp.uoc.ac.in/">https://idp.uoc.ac.in/</a>	
21	University of Kerala		

### How it can work

The current KALNET has the ability to integrate the member catalogues of all member institutions in one single catalog, thereby helping us understand the book availability

status at all places. Every year, universities spend lakhs of rupees to subscribe e-resources, and most of them are buying similar packages. If KALNET extend the resources sharing from print resources to e-resources, the members will get more benefits. If all these are made part of the network, then all member institutions in the state can avail the same resources and can spend their funds on subscribing varied packages for the benefit of users, to increase the variety available in resources. This can be facilitated using INFED whereby any user can search for resources subscribed by any member library of KALNET and get the requested resources from anywhere in the network. This if fully implemented can save a large amount of public funds being wasted in buying same packages across member institutions. UGC can centralize this resource availability thereby optimizing the fund and resource usage across all universities and higher education institutions in India. The Higher Education Council can also play a vital role along with UGC in this matter.

## Findings and Conclusion

Out of 21 higher education institutions of Kerala, 11 state universities already part of the KALNET, expecting other institutions and Universities also part of this knowledge network soon. In this concept paper, the next level of expansion of this network is suggested.

In this pandemic period INFLIBNET provide INFED, utilizing the Shibboleth System, this facility provides to all the universities for remote access of the online resources. Normally the online resources and databases available within the campus network with IP authentication but in the pandemic period campuses not functioning and students and faculties work from home.

Based on this experience suggest this facility to the next stage of the KALNET, in the proposal recommended a technical team for the smooth functioning of the network each institutions librarians and IT experts. If provide the online resources along with the online existing catalogue facility very useful to academic community of the Kerala state.

## Bibliography

1. INFLIBNET Access Management Federation. Available from: <http://infed.inflibnet.ac.in/why.php> [accessed Mar 26 2021].
2. Panda, Saroja Kumar, Jagdish Arora, and Ashok Kumar Rai. "Interlending and document delivery in India through INFLIBNET and the UGC-INFONET Digital Library Consortium." *Interlending & Document Supply* (2016).
3. Panda, Saroja Kumar, and Vijayakumar Mallappa. "Effective resource-sharing and document delivery among Indian universities: A study from the INFLIBNET perspective." *Journal of Interlibrary Loan, Document Delivery & Electronic Reserve* 25.3-5 (2015): 133-147.
4. Bhaskara Rao, N. "Use of Document Delivery Services through J-Gate@ UGC-INFONET-A Case Study of IGM Library." *University of Hyderabad* 3 (2015): 261-273.
5. Rao, N. Laxman. "Knowledge-sharing activities in India." *Library Trends* 54.3 (2006): 463-484.
6. KALNET <http://kshec.kerala.gov.in/>[accessed Mar 26 2021].
7. State Universities <https://www.ugc.ac.in/stateuniversity.aspx> [accessed Mar 27 2021].