

Off-campus Access Technologies for Library Resources

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Why Off – Campus Technologies??

- **Increasing Digital Content**

- Large number of publishers / E-Resources
- Cost / RoI / Vol

- **Expectations of Digital Natives & Digital Migrants**

- Seamless access to licensed content
- Break restrictions – Geographical, time

- **Increasing trend of distance education (MOOCs)**

- **Pandemic crisis**



Modes of Remote Access

Remote Desktop Tools

- Simple applications
- One to one (Client-Client)
- RDP Protocol & Proprietary
- OS dependent

- TeamViewer
- Anydesk
- Remote Desktop Web Connection
- RemoteUtilities

VPN

- Secure personal connection on Internet to office network
- Client-Server Technology
- **Encrypted Communication**
- Tunneling protocol (L2TP/IPSec, PPTP)

- ExpressVPN
- NordVPN
- **OpenVPN**
- **Openswan**
- **OpenConnect** **Many more**

Proxy Servers

- Tools to access geo-restricted content
- Middleman between requester & content provider
- Acts as gateway
- Web Applications
- Masks the requester IP
- URL rewriting

Library Proxy server tools

- EXproxy
- Remotexs
- Knimbus

Federation tools

- Federation between institutions & Publishers
- Works on Federation protocol SAML 2.0
- IDPs & SPs
- SAML (XML) metadata communication
- No IP business

Library federation tools

- Shibboleth
- OpenAthens

VPN Vs. Proxy Servers

VPN	Proxy Servers
Client –Server architecture	Web Based
Personal credentials for user	Personal credentials for user
Used to access all type of operations	Mainly used to access web content
Tunneling protocol (L2TP/IPSec, PPTP)	HTTP
Data encryption	No Data encryption
Highly secure	Security ???
Provide access through VPN server	Mask user IP to service provider
Slow	Relatively Fast

Library Proxy Tools: Features

- Provides authentication and mediation between institutions & databases / publisher websites
- Provide access to content via IP (Internet protocol recognition) by relying outside IP into inside IP
- Communicate with URL rewriting (<http://arc.aiaa.org.nal.remotexs.in/>)
- Authentication is provided
 - User ID/ Password
 - LDAP /

Popular Library Proxy Servers

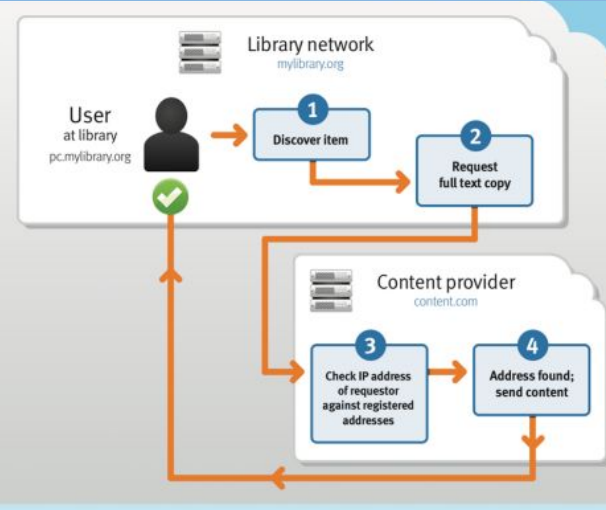
- **EZproxy** by OCLC
- **Muse[®] Proxy** by Edulib
- **WAM proxy** by iii innovative a ProQuest company
- **Remotexs**
- **Knimbus - GIST**

Proxy Servers: **EZProxy**

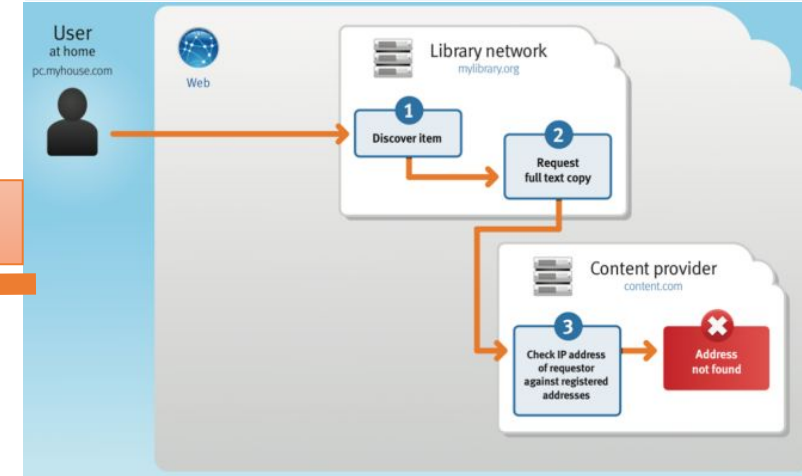
- **Middleware- single sign-on proxy solution for many resources by OCLC**
- **Available as standalone / hosted service (SaaS)**
- **24/7 reliability for e-content access**
- **Built to protect user privacy – Open SSL**
- **Integrates with many library systems**
- **Monthly summary usage reports**
- **EZproxy Analytics Module**
 - Easy-to-read view of e-resource usage across all subscriptions
 - Ability to create custom reports and visualizations
 - Responsive user interface
 - Collaboration features like share and export

EZProxy: Workflow

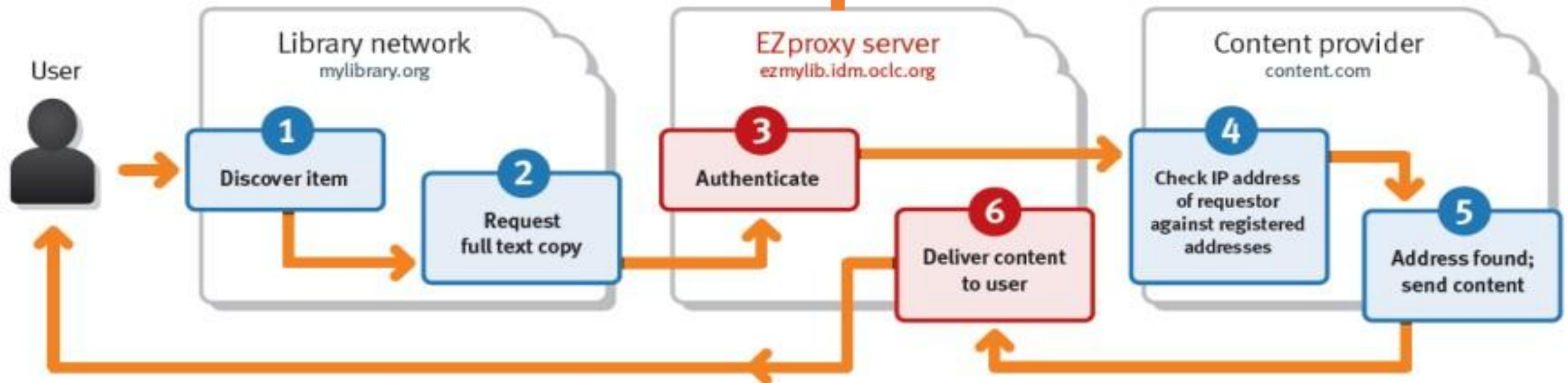
Inside Campus Network



Outside Campus Network



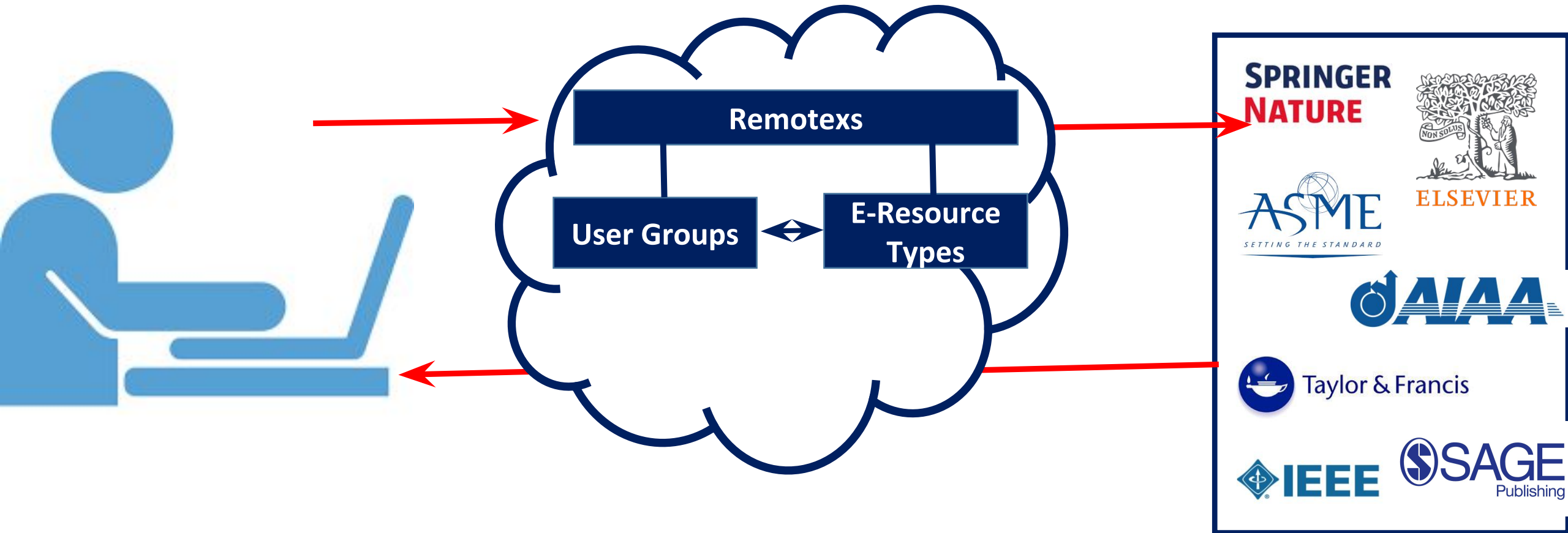
Solution



Proxy Servers: **RemoteXs**

- Cloud based off-campus access solution
- Developed using DRUPAL CMS
- Search & Browse functions for subscribed content
- Enables to map specific Content & specific Users
- Robust Usage statistics module with dashboard
- Responsive interface
- Integrated E-mail service
- SDI service

RemoteXs: Authentication Process



RemoteXs: CSIR-NAL

User Interface

CSIR NKRC NAL Welcome Shivaram BS | Logout

CSIR- National Aerospace Laboratories
Information Centre for Aerospace Science & Technology

Home About Us Services Resources Discovery Research Tools User Profile

● All ○ NAL OPAC ○ Peer Reviewed Journals

Search All ICAST Resources...

A-Z Journals

0 1 2 3 4 5 6 7 8 9 A B C D E F G H I J K L M N O P Q R S T U V W X Y Z All 2065 Journal(s)

Filter by Title Filter by Publisher Name

Title	Publisher Name	
☆ Inorganic Chemistry Frontiers	RSC	View Details
☆ Molecular BioSystems	RSC	View Details
☆ Soft Matter	RSC	View Details
☆ Acta Agriculturae Scandinavica, Section A - Animal Science	Taylor and Francis	View Details
☆ Acta Agriculturae Scandinavica, Section B - Soil and Plant Science	Taylor and Francis	View Details

Access via RemoteXs

Drag this button to your bookmarks bar!

Announcements

Nov 15 2018

PatSnap

PatSnap database for patent search

May 10 2018

Remote Access For NAL Users

This service will be for off campus access to NAL Authorized users to break the physical barrier and provide 24X7 access to subscribed content

[Help](#)

My Favorites 1 new item

Admin Dashboard

nal.remotexs.in/admin/dashboard

Dashboard Content RemoteXs Users User Groups Resource Groups Publishers

Dashboard

Active Users

- Remote Access User (734)
- Add User
- Disabled Users
- Users Pending Approval
- New User Accounts
- Usage Reports
- Service Request
- E-mail Settings
- Session Count
- IP Address Logs

User Statistics

Pending Approval 2.4% Disabled 0.3%

96.3% Active 99.3%

Recent Content

- Content Overview
- Create content
- Pick your portal color

nal.remotexs.in/reports/remotexs_remotexs_overview?report_date=2020-12-01&num_days=30&location=All#PerResource

Home Dashboard Usage Reports

Overview Report - 30 day report till 2020-12-01

Go Back

Parameters

Resourcewise Total PDF Downloads

Daywise Usage User Categorywise Usage Resourcewise Usage Userwise Usage

CSV HTML XLS Print Report

Resourcewise Total Data: Downloads+Browsing (in MB)

CSV HTML XLS Print Report

Type in to filter data

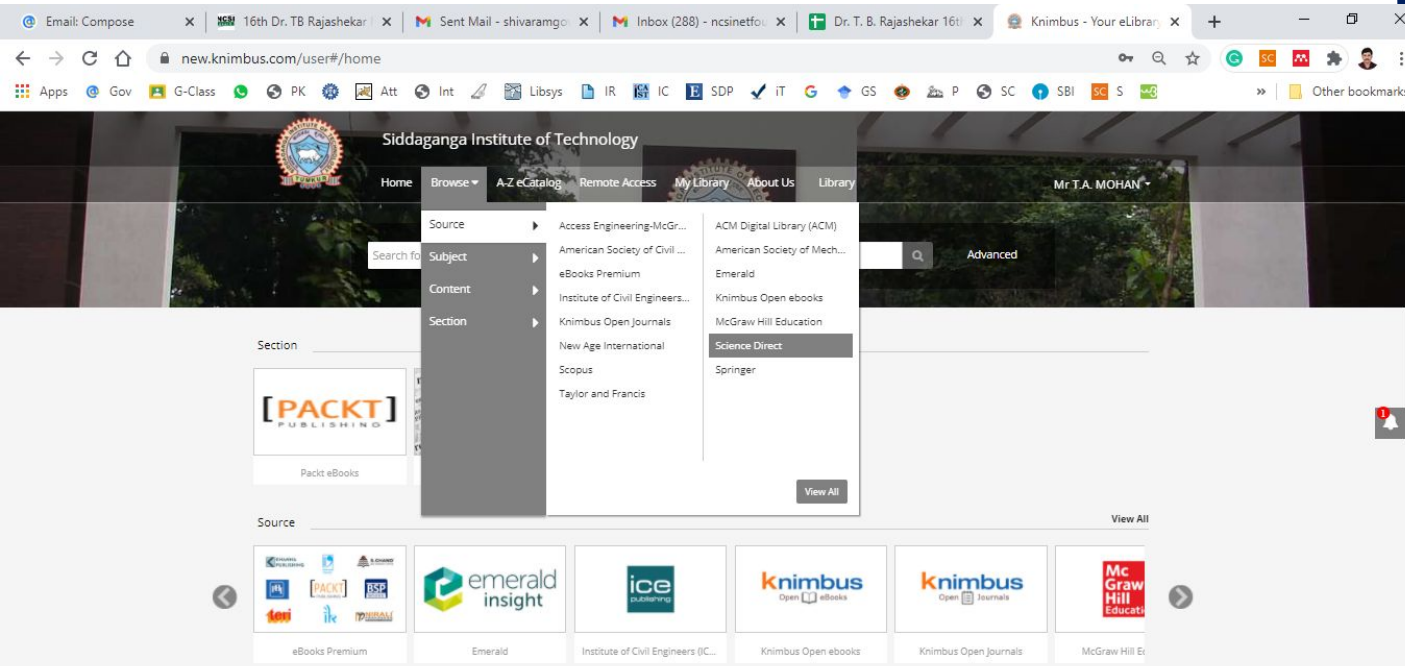
Resourcewise Usage - 30 days report till 2020-12-01

Resource	Location	Users	Unique Sessions	Total Downloads	Download Data (MBs)	Browsing Data (MBs)	Total Data (MBs)
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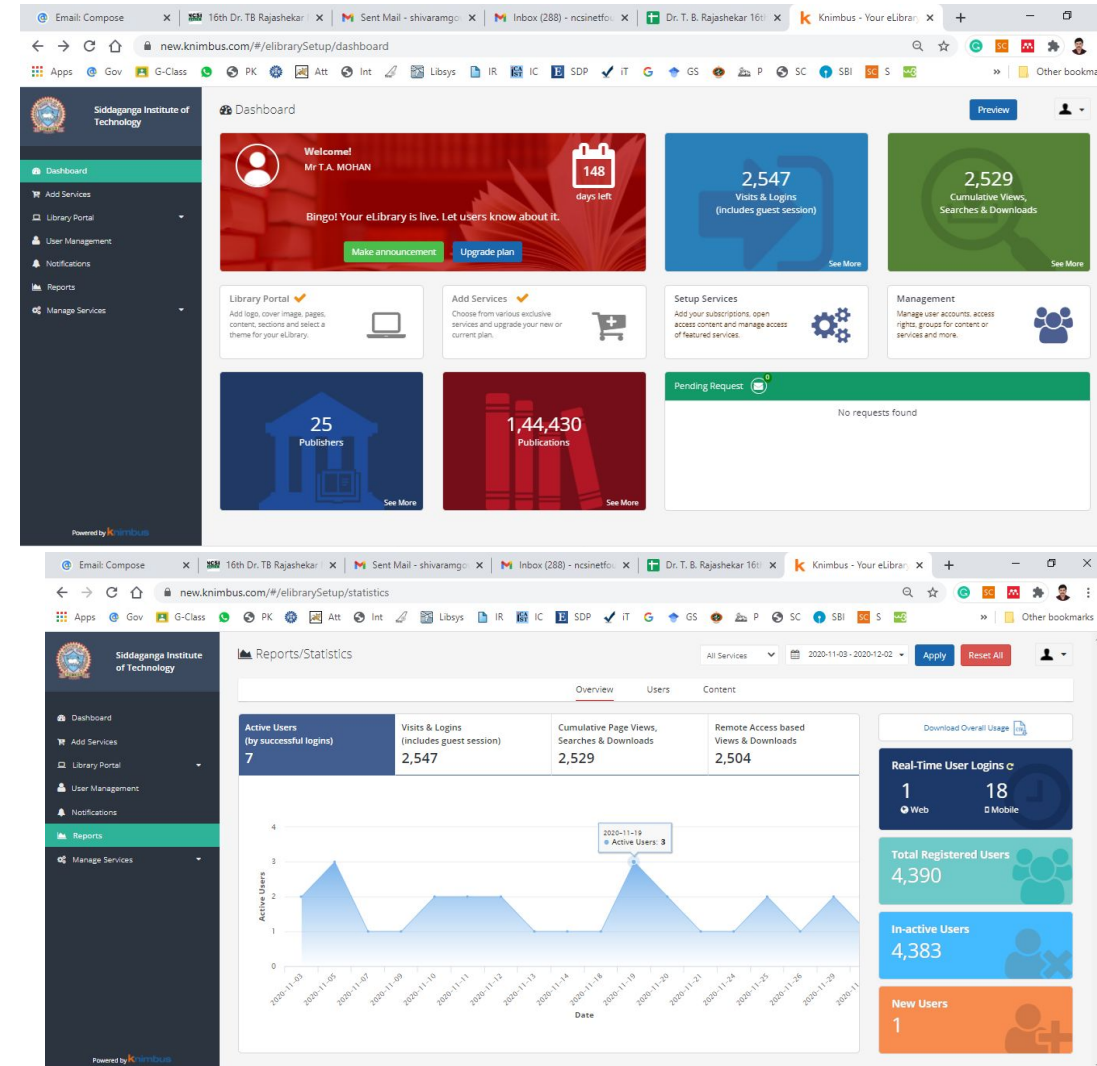
Knimbus: VTU Consortium

User Interface



Key Features: Robust Discovery Platform, Mobile App, Dash board for Usage statistics

Admin Dashboard



Federation Technologies (**Shibboleth**)

- **Single Sign on technology**
- **Two entities**
 - **IDPs – Identity providers:** authenticates the users and issues signed and encrypted SAML assertions to the SP
 - **SPs – Service Providers:** ensures that the user is authenticated and protects the content against unauthorised access
- **Federation managers – **INFED** from India, **Internet2** of USA, **JISC** of UK,**
 - Centralized agency to coordinate with member institutions in the process of implementation of user authentication and access control mechanism
 - Use standardized rules and metadata for exchange of attributes between IDPs & SPs
 - SAML protocol and XML communication

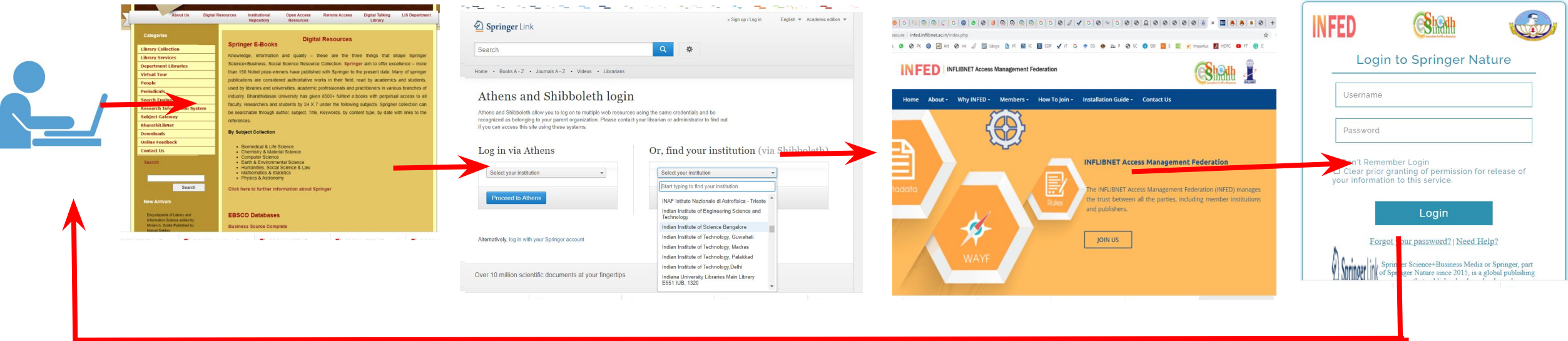
Federation Authentication Process (Bharathidasan University)

Library Home Page

SP (Service Provider)

Federation Manager

<https://idp.bdu.ac.in/>



Shibboleth SP Metadata (SAML)

Attributes

Shibboleth Idp Metadata (SAML)

- eduPersonTargetedID
- eduPersonEntitlement
- eduPersonScopedAffiliation
- eduPersonOrgDN

```
<?xml version="1.0"?>
<md:EntityDescriptor xmlns:md="urn:oasis:names:tc:SAML:2.0:metadata" validUntil="2020-12-04T08:49:25Z" cacheDuration="PT604800S" entityID="Springer">
  <md:SPSSODescriptor AuthnRequestsSigned="false" WantAssertionsSigned="false" protocolSupportEnumeration="urn:oasis:names:tc:SAML:2.0:protocol">
    <md:KeyDescriptor use="signing">
      <ds:KeyInfo xmlns:ds="http://www.w3.org/2000/09/xmldsig#">
        <ds:X509Data>
          <ds:X509Certificate>HTTP</ds:X509Certificate>
        </ds:X509Data>
      </ds:KeyInfo>
    </md:KeyDescriptor>
    <md:KeyDescriptor use="encryption">
      <ds:KeyInfo xmlns:ds="http://www.w3.org/2000/09/xmldsig#">
        <ds:X509Data>
          <ds:X509Certificate>HTTP</ds:X509Certificate>
        </ds:X509Data>
      </ds:KeyInfo>
    </md:KeyDescriptor>
    <md:NameIDFormat urn:oasis:names:tc:SAML:1.1:nameid-format:unspecified</md:NameIDFormat>
    <md:AssertionConsumerService Binding="urn:oasis:names:tc:SAML:2.0:bindings:HTTP-POST" Location="https://link.springer.com/athens-shibboleth-login">
    </md:AssertionConsumerService>
  </md:SPSSODescriptor>
</md:EntityDescriptor>
```

```
<?xml version="1.0"?>
<md:EntityDescriptor xmlns:md="urn:oasis:names:tc:SAML:2.0:metadata" validUntil="2020-12-04T08:42:45Z" cacheDuration="PT1607503365S" entityID="IISC">
  <md:IDPSSODescriptor WantAuthnRequestsSigned="false" protocolSupportEnumeration="urn:oasis:names:tc:SAML:2.0:protocol">
    <md:KeyDescriptor use="signing">
      <ds:KeyInfo xmlns:ds="http://www.w3.org/2000/09/xmldsig#">
        <ds:X509Data>
          <ds:X509Certificate>HTTP</ds:X509Certificate>
        </ds:X509Data>
      </ds:KeyInfo>
    </md:KeyDescriptor>
    <md:KeyDescriptor use="encryption">
      <ds:KeyInfo xmlns:ds="http://www.w3.org/2000/09/xmldsig#">
        <ds:X509Data>
          <ds:X509Certificate>HTTP</ds:X509Certificate>
        </ds:X509Data>
      </ds:KeyInfo>
    </md:KeyDescriptor>
    <md:NameIDFormat urn:oasis:names:tc:SAML:1.1:nameid-format:unspecified</md:NameIDFormat>
    <md:SingleSignOnService Binding="urn:oasis:names:tc:SAML:2.0:bindings:HTTP-Redirect" Location="https://libraryidp.iisc.ac.in/">
    </md:SingleSignOnService>
  </md:IDPSSODescriptor>
</md:EntityDescriptor>
```

Google Scholar CASA (Campus Activated Subscriber Access)

- Google Scholar CASA service started in **2017-18**
- CASA is **free and automatically** enabled service through Google Scholar (Google Account)
- It works through **Publishers participation** (Not all publishers are participating)
- Resources accessed on campus can be continued to be accessed from off- campus –by **temporary tokens** created through Google account (30 days).
- Need to enable **Signed-in off-campus access links** under Google scholar settings -Accounts
- It remembers the access settings through a **cookies**

CASA Workflow

1. Records user affiliation on campus



User visits Google Scholar/
Any of Google products



Google records
Subscriber links



Recorded affiliation &
Token created

2. Authenticating affiliation off-campus



User visits Google Scholar /
Any of Google products



Google checks recorded
affiliation and subscriber links



Recognition CASA token

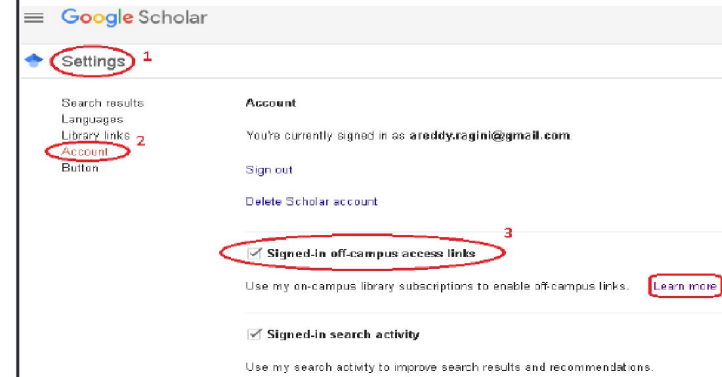
3. Enable access



CASA token recognized
& connection



Access enabled



Conclusion

- Off-Campus technologies Enhance of usage of subscribed e-content & empowers users with 24 X7 access
- Helps in providing seamless access to subscribed content
- Several options available to implement, need to decide which one suits best

Thank you