Who Ya Gonna Call? Troubleshooting Strategies for E-resources Access Problems

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Presentation Agenda

E-Journal Pros

E-Journal Cons – Access Difficulty

Common Access Hazards Scenarios
  • Tools of the Trade - Effective E-journal Registration and Access
  • Erroneous Proxy Server Integration
  • OpenURL Metadata Conflicts (Link Resolvers)
  • Standards and Best Practices for E-journal Access
  • Access Restrictions (Embargoes, Author Rights Notices, Single User Limits, Perpetual Access)

E-Journal Troubleshooting Best Practices
In today’s digital age, demand for e-journals has increased exponentially. Many of today’s e-journals feature:

- Improved digital technology
- Simultaneous and remote user access
- Enhanced usage statistics
- Interactive interface features (e.g. subject terms, multimedia, language translation, bibliographic manager compatibility, etc.)

Additionally, e-journals resolve the following library challenges:

- Print replacement costs
- Limited physical archive space
- Paper waste
- Physical processing requirements/resources
It's a library, honey--kind of an early version of the World Wide Web.
Along with benefits, e-journals also have their fair share of challenges, particularly when it comes to end user access. Access difficulty can manifest itself in many different ways. Users may encounter the following:

- **User name and password prompts** (the e-journal login credentials are often unknown and unavailable to end users).
- **Subscription expiration messages** or messages indicating access is unavailable for the e-journal.
- **No full text available** (absent full text button, HTML and/or PDF record).
- **Error messages** due to erroneous URLs, insufficient software/hardware or browser settings.
- **Proxy server error messages** due to improper/incomplete configuration.
Like traffic jams, e-journal access hazards can stop users in their tracks from obtaining full text access.
Activation - Start Your Engines!

- Payment received by provider
- Notification that access is available
  - Registration required
  - IP
  - License/subscription administrator
  - Administrative account
  - Sub agent may handle all steps
Await activation
Notification that registration has been accepted and access is up
Internal record keeping
  • Finish cataloging, OCLC, web page
  • Holdings
Add to link resolver (proxy update?)
ERM
Tools of the Trade - Effective E-journal Registration and Access

You will likely need the following information to successfully register and activate access

**Subscription and license terms:**
- Subscription start/end dates
- Subscription coverage and formats (includes print? other titles?)
- Perpetual access rights and back file entitlement?
- Simultaneous user limit?

**Registration or access claim required:**
- Account number or subscription reference #
- Administrative account (establish or have user name and password)
- Signed license on file
What Do the Publisher’s Need?

- Institution’s contact name and email address
  Should the contact change, name and email address must be updated. Why? Because some publisher’s may send automatic updates to name on file
- Agent’s name and email address
- IP range updates and change notifications
- Is your IP static? If not, consider other options such as Athens or Shibboleth.
E-journal Registration and Access Best Practices

- Foster collaboration between library staff and your proxy server administrators.
- Sign up for publisher/vendor listserv/communications and direct these communications to a group email address visible to all.
- Flag e-journals with full text limitations (Author Rights Notices).
- Indicate full text types (HTML, PDF).
- Utilize subscription agent for assistance with registration and authentication.

Utilize all the services and tools your subscription agent has to offer. They may be able to activate access if you provide them with IP, administrative contact, platform account numbers (Ingenta et al).

- Use a tool like an ERM or other tools to track administrative metadata.
- Track workflow as appropriate (task mgr).
- Keep your IP address list on file and notify vendors/publishers before they change.
Tracking activation strategies (Bonus question)

- Claiming function in Library’s ILS
- ERM tickler/reminder
- Calendar/task reminder (e.g., Outlook)
- Subscription agent system
- Paper system

Wait for someone to ask about it? 😊
A proxy server is a computer between your workstation computer and the Internet. When you request a web page, the proxy server receives and processes the request. After the web page is received from the Internet, the proxy server sends the file over to your workstation computer. To the user, the proxy server is invisible. A proxy server can also act as a firewall, blocking incoming network requests from the Internet.
What Does a Proxy Network Look Like?

Depending on the network, the proxy might be part of the firewall or completely separate from a firewall.
URL rewriting proxy servers require no browser configuration. These proxy servers change the URLs in web pages so that requests for web pages from licensed e-resources are routed back to the proxy server, providing users with remote access to e-resources.

It operates as an intermediary server between users and licensed e-resources. Users connect to the proxy, then the proxy connects on their behalf to e-resources to obtain web pages and sends the web pages back to the users.

Since the proxy server runs on a machine on the library’s network, the publisher or vendor sees the requests as coming from an IP address at the library.

EZproxy and III WAM are two of the most popular rewriting proxy products on the market.
Erroneous Proxy Server Integration

A user attempts to access an e-journal via a proxied URL on a subscribing institution’s library web page and encounters difficulty accessing the e-journal.

Your access is denied!
Troubleshooting Best Practices

What is the problem?

• The first step in diagnosing and resolving any e-journal access issue.
• Ask clarifying questions - they may reveal expected behavior/results.
• Seeing is believing – try duplicating the problem or ask user for screen captures depicting problem.
• Implement help/feedback form requiring the above information with contact info.
Troubleshooting Best Practices (Proxy Servers)

Error Messages:
• Is the user entering the correct proxy login credentials?
• Does the error message occur before or after proxy login credentials are entered?
• Is the error message proxy-centric or publisher/vendor-centric?
• Does the problem occur for other titles/resources by vendor/publisher?
Error Messages?

- Does the problem occur inside or outside the network?
- Does the problem occur during certain parts of the day – e.g. is it sporadic?
- Does the problem occur when using a certain browser?
- Does the problem occur when using certain operating systems?
Proxy Server Problem Scenario 1

A user clicks an e-journal link and correctly enters her EZproxy login credentials. However, the proxy generates an error message indicating the Administrator must authorize the host name of the URL to the proxy configuration file.
Root Cause: Users will get a Hostname error message when they attempt to access a resource that has not yet been set up for use by EZproxy. This happens when publisher or vendor change domain names or move content to a new host without informing the library. Or, a library subscribes to a new resource but fails to add the resource domain to the EZproxy.

Fix/Prevention Plan: Ensure new resource host domains are added to your proxy configuration prior to advertising access to patrons via your proxy server. And, if a resource’s domain changes, make sure your proxy contains the updated domain. This solution can also apply to III WAM proxy servers by adding the domain to the forward table.
A user clicks a proxied e-journal URL (using EZproxy) and receives the following error: “Please tell your server administrator to check messages.txt/ezproxy.msg for a MaxVirtualHosts error.”
Proxy Server Problem Scenario 2
(The role of MaxVirtual Hosts)

- EZproxy places itself between remote users and remote web servers by creating virtual hosts that represent the remote web servers.
- In proxy by port, EZproxy assigns a unique TCP/IP port number (e.g. 2050) and in proxy by hostname, EZproxy assigns a unique DNS hostname such as www.somedb.com.ezproxy.yourlib.org.
- As EZproxy encounters URLs to other web servers that it is configured to proxy, it assigns additional virtual hosts to represent those web servers.
- When EZproxy creates a virtual host, it retains the information for that virtual host and restores it when EZproxy is restarted. In environments with a large number of databases, this can lead to the need for hundreds of virtual hosts.
- If EZproxy reaches the MaxVirtualHosts limit, it is unable to proxy any additional web servers.
Proxy Server Problem Scenario 2

Root Cause: EZproxy exceeded the default MaxVirtualHosts limit.

Fix/Prevention Plan:
- You (or the EZproxy Administrator) should log into EZproxy Administration and validate EZproxy has established virtual hosts only for web servers used by your database vendors (and to remove orphaned hosts or hosts not used in the last 30 days).
- Next, edit the configuration file and look for any lines like MV 200 MaxVirtualHosts 200. MV=MaxVirtualHosts. If you have more than one such line, remove all but the last such line. If you do not have any such lines, your server is using the default of 200. To increase MaxVirtualHosts, add 100 to the existing MaxVirtualHosts value by either increasing the number on the existing line or adding a new line like MaxVirtualHosts 300. Restart EZproxy.
- Note: If the problem persists, you likely need to modify your firewall ports to accommodate the additional hosts.
A user clicks a proxied e-journal URL (using III WAM) and correctly enters their proxy login credentials and are taken to the e-journal resource page. However, full text access is unavailable and the publisher prompts them to either log in as an institution or pay for an article despite the affiliated institution having a valid subscription to the e-journal.
Proxy Server Problem Scenario 3

**Root Causes:** The proxy server’s IP address is not registered with the publisher or vendor. Or, the proxy prefix dropped off of the URL because the publisher redirected to another server not included in the proxy’s configuration/forward table.

**Possible Fixes/Prevention Plans:** Ensure your proxy server’s IP address (or addresses) are registered with the publisher/vendor along with your other network IP addresses. If your IPs change, update the publisher/vendor in advance of the change. Remember to communicate publisher/vendor domain changes to your proxy administrator.
Proxy Server Vendor Support

**EZproxy:**
Web site: [http://www.oclc.org/ezproxy/support/default.htm](http://www.oclc.org/ezproxy/support/default.htm)
Email: support@oclc.org
Phone: 800-848-5800

**Innovative Interfaces Inc. Customer Services:**
Phone: 800-878-6600 (Toll Free)
Phone: 510-655-6200 or 6205
Email: helpdesk@iii.com
Support Site: [http://csdirect.iii.com/faq/](http://csdirect.iii.com/faq/)
Innopac Mailing List: [http://www.innopacusers.org/list/archives/](http://www.innopacusers.org/list/archives/)
SIR, THIS IS A LIBRARY. IF YOU WANT A BOOK, GO TO A BOOKSTORE...
Proxy Server Best Practices

- Post visible information detailing on campus/remote (proxy) e-journal/resource access protocols.
- Implement a user friendly error message when users enter incorrect login credentials.
- Advertise end user technical support contact info whenever possible.
Proxy Server Best Practices

- If applicable, indicate proxy server and resource browser/software/hardware requirements.
- When modifying the configuration file (EZproxy) remember to restart your proxy server to implement modifications.
- Foster collaboration between library staff and your proxy server administrator(s).
What is OpenURL?

A protocol that allows operation between an information resource, and a service component that offers localized services in an open linking environment.

A URL that transports metadata or keys to access metadata for the object for which the OpenURL is provided.

OpenURL servers ultimately present the end-user with context-sensitive links that are dynamically configured on the basis of the institution's e-collections. Such resources can include:

- Full text repositories
- Abstracting, indexing, and citation databases
- Online library catalogs
- Citations appearing in research articles
- E-print systems
- Other Web resources
What is OpenURL?
(Understanding the Jargon)

**Metadata** – “data that describes other data” For example AuLast = Berry, AuFirst = David

**Source** – An online service from which a patron selects an item-level link (e.g. SID = PubMed)

**Target** – The site or service to which a query is sent when a patron clicks an OpenURL link
What Does OpenURL Syntax Look Like?

http://openurl.ebscohost.com/LinkSvc/linking.aspx
?genre=article&sid=GoogleScholar&atitle=Alendronate%20offers%20hope%20to%20men’s%20crumbling%20bones

Here is an OpenURL request to EBSCOhost.
What Does OpenURL Syntax Look Like?

http://openurl.ebscohost.com/LinkSvc/linking.aspx

The first part of the URL is the Base URL. The Base URL is the OpenURL server target.
http://openurl.ebscohost.com/LinkSvc/linking.aspx


The remaining portion of the URL is the query string. The query string contains the journal and article metadata and where the request origin.
OpenURL Metadata Conflicts (Link Resolvers)

A user at an academic library attempts to access an e-journal article via an OpenURL link resolver. When they link to the publisher’s page, they receive a “journal not found” message. However, the journal is indexed in full text on the publisher’s site. Frustrated and feeling defeated, the user exits the publisher’s site never realizing full text was available for their article.
OpenURL Metadata Conflicts (Link Resolvers)

Possible Root Causes:

- Is the article from a supplement issue? There is currently no industry standard for indexing supplemental metadata (e.g. S1 vs. Sup1 vs. Sup-1).
- Similar to supplement metadata, mismatched volume, issue and start pages between source and target (e.g. issue 1 vs. issue 1-2 vs. issue1/2) can prevent the article from being found on the target site.
- The journal is no longer indexed on the publisher’s site.
OpenURL Metadata Conflicts (Link Resolvers)

Possible Fixes/Prevention Plans:

- If available, ensure the OpenURL link resolver’s search revision screen (e.g. “Refine Search” screen) option is enabled to allow users to modify metadata elements. Try removing the volume and/or issue field data from the OpenURL’s "verify request" page and re-submit your search.

- Confirm you are using the correct base URL – publishers occasionally change platforms.

- To minimize broken links, Link resolvers commonly utilize metadata enhancers to enrich source data. (e.g. proprietary knowledge bases, PubMed, CrossRef).

- The NISO groups, IOTA (Improving OpenURLs Through Analytics) and KBART (Knowledge Base And Related Tools) are working to improve the quality of OpenURL.
OpenURL Link Resolver Best Practices

If enabling link resolver links on aggregator platforms, consider the following:
- Display link for bibliographic or full text records? Both?
- Display link using knowledge base collection filter?
- Implement ILL CustomLink?
- Incorporate print resources?
- If available, utilize resource ranking.
Standards and Best Practices for E-Journal Access

• Indicate journals/resources by full text types (HTML, PDF).
• Understand post-cancellation access rights and entitlements.
• Implement a library research 101 class – informed users = guaranteed usage which is helpful for validating renewals.
Standards and Best Practices for E-Journal Access

How Standards Proliferate:

Situation: There are 14 competing standards.

14?! Ridiculous! We need to develop one universal standard that covers everyone’s use cases. Yeah!

Soon:

Situation: There are 15 competing standards.
Why Standards?

- Reduce re-keying
- Reduce maintenance cost and disruption
- Durability of data
- Avoid supplier lock-in
- Easier development path
- Platform for collaboration
- Whole system economies

Source: “The Business Case for Standards” (JISC)
Standards and Best Practices for E-Journal Access

- Link Resolvers and Knowledge Bases
  - OpenURL
  - KBART
  - IOTA

- Work, Manifestations and Access Points
  - MARC 21
  - DOI
  - PIE-J
  - TRANSFER
Foster collaboration between library staff and your proxy server administrators.

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OpenURL

OpenURL is a standardized format of Uniform Resource Locator (URL) intended to enable Internet users to more easily find a copy of a resource that they are allowed to access. Although OpenURL can be used with any kind of resource on the Internet, it is most heavily used by libraries to help connect patrons to subscription content. (Source: Wikipedia)

• ANSI standard Z39.88, OCLC is maintenance agency
Knowledge Base And Related Tools

Joint effort of NISO and UK Serials Group (UKSG)
- NISO Recommended Practice
- RP-9-2010, approved January 2010
- Entering Phase II, recent endorsements

Addresses data problems within OpenURL supply chain to effect smoother interaction – i.e., knowledge bases, link resolvers, etc.
- Educational events that address role of each party
- Centralized information portal to support educational activities – e.g., glossary, “how to” guides, etc.

http://www.niso.org/workrooms/kbart
Improving OpenURLs Through Analytics

NISO OpenURL Quality Metrics Working Group started this two-year project in 2009 courtesy of 2008/2009 Mellon Planning Grant

NISO initiative that makes use of log files from various institutions and vendors to analyze element frequency and patterns contained within OpenURL strings

Reports created from this analysis inform vendors about where to make improvements in their OpenURL strings so that maximum number of OpenURL requests resolves to a correct record

http://openurlquality.niso.org
- Foster collaboration between library staff and your proxy server administrators.
- Sign up for publisher/vendor listserv/communications and direct these communications to a group email address visible to all.
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## Improving OpenURLs

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[http://openurlquality.niso.org](http://openurlquality.niso.org)

### Logsource Reports

<table>
<thead>
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<th>Report type</th>
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<th>Metric</th>
<th>Number of OpenURLs analyzed</th>
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### Source

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<th>% of source OpenURLs that contain auast</th>
<th>Total from source</th>
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Foster collaboration between library staff and your proxy server administrators.

Sign up for publisher/vendor listserv/communications and direct these communications to a group email address visible to all.

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**MARC 21**

MARC 21 Standard (Machine Readable Catalog)
Library of Congress is maintenance agency

http://www.loc.gov/marc/

Comments from NISO ERM Data Standards and Best Practices Review Steering Committee:

Data which extends beyond margins of MARC format are associated with dropping/adding resources from one online provider, platform, or aggregator to another

Group recommends that ERMS make better use of Electronic Resource Title Continues (MARC 780), Electronic Resource Continued By (MARC 785) & Uniform Title (MARC 130, 240)
**Digital Object Identifier**

- Standard used for identifying content objects in the digital environment
- International DOI Foundation is maintenance agency

- Using DOI names allows construction of automated services and transactions
  - Intellectual content
  - Metadata
  - Content suppliers
  - Electronic commerce
  - Media

http://www.doi.org
PIE-J – Presentation and Identification of E-Journals

- NISO project kicked off in December 2010
- Develop Recommended Practice on presentation and identification of e-journals
  - Title presentation and bibliographic history
  - Accurate use of ISSN
  - Citation practice
- Assist publishers, platform/knowledge base providers, A&I services, aggregators, etc.
- http://www.niso.org/workrooms/piej
Best practice guidelines to help publishers ensure that journal content remains easily accessible by librarians and users when there is a transfer (e.g., change of ownership) between parties.

UKSG is maintenance agency.

Objective is transfer process occurs with minimum disruption.

Addresses continuity of access during transfer and ongoing perpetual access.

http://www.uksg.org/transfer/code
Want To Make A Difference?

Get Involved!

- Libraries are in best position to identify opportunities for increased efficiency

- Get involved with stakeholders:
  - Subscription/publisher
  - Standards organizations
  - System vendors
  - Other libraries
  - Patrons
Full text access may be limited or denied to end users for a variety of reasons:

- **Embargo**: a delay in full text availability until a certain date or conditions has been met.
- **Publisher/provider** fails to turn on the right switch!
- **Author rights notice**: (aggregator platforms) full text unavailable due to author(s) request (Tazini vs. New York Times).
- **Discontinued back file access**: full text unavailable due to cancellation of subscription (partial or complete loss).
- **Simultaneous user/location limit**: full text limitation due to number of users or location.
- **Authentication limitations**: full text limitation due to authentication protocol.
- **Detours**: Title moved to another publisher.
Access Restrictions Best Practices

- Sign up for publisher/vendor listserv/communications and forward to a group email address.
- Sign up for title list change report alerts, bookmark publisher “for librarians” sites, monitor Transfer http://www.uksg.org/transfer
- Highlight e-journals with potential full text access restrictions (icon).
Access Restrictions Best Practices

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Verifying access and holdings (bonus question)

- Set priorities for review (smaller publishers)
- Plan reviews according to product renewal calendar
- Use platform/URL or other changes as opportunity for full review
- Set up procedures for quick response to user problem reports
Library Problem Solving Workflow

- E-providers
- Vendors
- Consortia
- Licensing Librarian
- Library IT Staff
- Campus IT
- Link Resolver Staff
- Acquisitions Staff
- Reference Staff
- E-resources Librarian
- Library Website, Twitter, etc.
General Best Practices for Libraries

Develop a team approach (formal or informal)
  • Roles and backup
  • Reference “troubleshooting” interview
  • Training on basic concepts and strategies

Establish a group e-mail address
  • Acquisitions
  • Problem-solving
  • Report template
General Best Practices for Libraries

Wondering if you are a team? At least be clear about who’s who and what you are.” From *Overcoming the Five Dysfunctions of a Team* by Dirk Davis
General Best Practices for Libraries

Request contact information
• Ordering process
• Renewal process
• Annual review

Provide feedback to user
• Confirm receipt of problem
• Explain the problem & actions underway or taken
• Use your public relations skills
General Best Practices for Libraries

Provide feedback to e-providers/vendors
- Evaluation/trial period
- Point of renewal
- Site changes

Create documentation
- Contacts
- Incident tracking
- Basic problems & instructions
  wiki/SharePoint
Thank you for attending today’s presentation!

Questions?
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