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Investigation into an alternative to EZproxy at Stellenbosch University

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Background

- Until recently, IP authentication combined with a proxy server for off-campus access has been the most common solution worldwide to authorizing access to licensed e-resources. This is also the case at Stellenbosch University (SU).
- For various reasons, however, there has been a growing interest in simplifying the user experience, especially for users needing off-campus access to electronic resources.
- Recently we were made aware of the RA2I initiative to develop best practices around the implementation of an alternative to IP authentication that improves the user experience.
- At the same time SU was introduced to the OpenAthens identity and access management service that works on the principle of user-based authentication as opposed to traditional location-based (IP) authentication to allow access to off-campus information resources.
- A working group was set the task to investigate the potential of OpenAthens as an alternative to the current IP authentication system, EZproxy.
- The working group examined EZproxy, OpenAthens and RA2I based on the following points: Cost, user experience, impact on library staff, privacy and vendors.
- RemoteXs was also considered, but since it is also a location-based solution, we decided not to pursue that option.

IP authentication with EZproxy

- Stellenbosch University currently uses IP authentication to manage access to our licensed e-resources. This is combined with a proxy server (EZproxy) to make off-campus access possible. Off-campus users, accessing resources via the Library homepage, are asked to authenticate themselves as SU users with their campus username and password. Once authenticated, and during the same session, they can move between SU resources without being asked again to log in. On-campus users do not have to authenticate themselves.
- EZproxy is an OCLC product hosted on a local server which needs to be maintained and updated by library staff.

EZproxy - Pros

- EZproxy is implemented worldwide and is a very stable system.
- EZproxy is relatively cheap.
- EZproxy is familiar to our users and is applied seamlessly on campus.
- During a session from off campus, users are prompted only once to authenticate themselves.
- No personal information is requested from the user and therefore their privacy is protected at all times.
- Almost all our resources work well with EZproxy.
- Most vendors proactively communicate changes to their sites for library staff to update the EZproxy stanzas.
- The Library has the necessary staff and skills to support EZproxy.
- OCLC maintains a list of database stanzas as well as a listserv where solutions can be found.
- Although the retrieval of statistics in EZproxy currently is not very satisfying, OCLC is working on a new analytics option, which will be made available soon.

EZproxy - Cons

- Users need to be educated that, when off campus, they need to access e-resources only via the Library homepage.
- If off-campus users go directly to our resources, and not via the Library homepage, they are not recognised as SU users and are denied access to a resource.
- For some sites, users need to create a personal account, separate from their institutional account, in order to perform certain functions on the site e.g. saving and e-mailing of results, downloading of chapters, etc.
- A few of our resources do not work well with EZproxy and require username and password authentication, which impacts negatively on the user experience as well as on library staff workload.
- The retrieval of usage statistics is a labour-intensive process.
- Troubleshooting the misuse of resources takes time.
- Not all vendors proactively communicate changes to their sites and associated changes, which means that library staff need to find and solve the problem themselves.

OpenAthens

- OpenAthens is a commercial federated identity and access management service.
- According to their flyer, “OpenAthens provides a SAML-based approach to single sign on that is more secure, reliable, and transparent than IP recognition”. It is a cloud-hosted solution, providing Software as a Service (SaaS).
- With OpenAthens, users on campus as well as off campus will use their SU credentials to access online resources. Users will only need to authenticate to OpenAthens once per session. The authentication process will differ based on whether resources are accessed via library websites or directly from a content provider website.

OpenAthens (continued)

- Users accessing resources via a library website will do so through the SU Single Sign On.
- It will be possible for users to access the library's licensed online resources directly from the websites of content providers who support OpenAthens. Every content provider is different, but the steps to sign in will be roughly as follows:
 - Find the "Sign in" or "Login" button on the content provider's website
 - If available, select OpenAthens as the sign in method
 - In the “Find your organisation search box”, type Stellenbosch University
 - Sign in with the SU Single Sign-On

OpenAthens - Pros

- Users do not have to work via the Library website but can access content they find from a web search or a link in an email and then log in directly. They can move between resources without re-entering their credentials.
- Users use their institution network username and password to log in.
- There is no need for personal accounts for different vendor sites; users' OpenAthens log-in will allow them to save and e-mail results, download chapters, etc.
- OpenAthens is a cloud-hosted solution, which should limit the workload of IT and E-resources staff.
- OpenAthens provides a high level of usage data, making it possible to tie the use of specific resources to a specific user or group of users.

OpenAthens - Cons

- OpenAthens is more expensive than EZproxy.
- Not all resources support federated access. Examples of publishers that do not, are Brill, Cell Press, Annual Reviews.
- A change to OpenAthens will be disruptive and users will need to be made aware of and trained in using the new way of logging in.
- The process of logging into a resource can vary from publisher to publisher. Different publishers use different terminology and different authentication routes, which can confuse users. For this reason, some OpenAthens subscribers still ask their users to access their resources via the library website.
- Even when on campus, users will be required to log in.
- In order to track resource usage patterns to the individual level, users' personal information such as name and email address will be provided to OpenAthens, impacting negatively on the privacy of users.
- The transition will be slow, with lots of data clean-up to be done by the Library.

RA21 - Resource Access for the 21st Century

- Resource Access for the 21st Century (RA21) is a joint initiative by STM (International Association of Scientific, Technical and Medical Publishers) and NISO (National Information Standards Organization).
- Representatives of e.g. ProQuest, OpenAthens, Wiley, EBSCO, Elsevier served on different committees, which developed and approved the Recommended Practice that was available for comment 17 April – 17 May 2019
- RA21 believes that IP-based authentication is insufficient and insecure and their aim is to simplify access to publisher content.
- Libraries and publishers should rather authenticate using an agreed-upon standard by making use of federated identity. This should eventually lead to a consistent user interface on all platforms, where users can choose their institution or identity federation and sign on using their institutional credentials.
- RA21 does not specify standards, protocols or software - it is only an attempt to determine best practice and establish dialogue between publishers, libraries and identity federations to eventually arrive at a standardised authentication method.

RA2I (continued)

- Key recommendations:
 - Adopt federated single sign-on
 - Establish identity federations where they do not exist
 - Ensure user privacy
 - Improve the user experience

RA2I - Pros

- RA2I comes at no cost.
- Users would not need to navigate to a resource via the Library's website, but will be able to access a resource from a search engine or a DOI by using their institutional credentials.
- Users will be able to use their institutional credentials everywhere, instead of creating personal profiles on product sites, each with new credentials.
- The EZproxy would no longer be a requirement to access resources and would reduce the maintenance burden on IT staff.
- RA2I should be a long-lasting, consistent solution to e-resource access.
- SAFIRE (South African Identity Federation) can be used to broker authentication between libraries and publishers.

Federation...

- Provides a new approach to electronic resource management
- Gives better control over who has access to your resources = better compliance with licensing agreements
- Allows you to downsize/decommission reverse proxies
- Is less confusing for your users
- Saves you money...

RA2I - Cons

- RA2I serves only as an authentication scheme and does not include a mechanism to track usage.
- The Association of Research Libraries has voiced concerns regarding privacy and the lack of provision for drop-in users at libraries.
- Not all publishers are RA2I-accessible. Continued access to such resources will require a proxy, which means that a combination of solutions will be required
- Timeline - It may take a number of years before all publishers are complying to and all libraries are using RA2I

Conclusion

- RA2I provides a goal to work toward (for libraries and publishers), not an abrupt change. Dual stack support for the foreseeable future is therefore needed. It should be technically possible to run any combination of these solutions in parallel:
 - IP-based authentication
 - EZproxy
 - OpenAthens
 - RA2I
- However, it would be ideal to make use of a maximum of one or two solutions in order to provide clients with the most consistent experience possible. The Library's clients expect a consistent experience, and every change represents a major inconvenience and retraining of many people. A change from EZproxy to OpenAthens or RA2I would be disruptive, and a subsequent change from OpenAthens to RA2I would be perplexing from a user perspective. (Both solutions are similar enough to be easily confused.)

Interim decisions

- OpenAthens and RA2I both have many advantages, but neither of these solutions are fully operational yet and we have decided to maintain the status quo for the time being.
- In the meantime, the Library should continuously strive to effect RA2I access.
- **SANLiC should be asked to include RA2I implementation in their negotiations with publishers and to increase awareness of RA2I among SANLiC members.**

In the words of Jane Charlton of OpenAthens, in their response to the draft RA21 recommendations:

... nothing will change unless publishers engage with the very real issues that libraries and their users are experiencing. Much wider adoption of federated single sign-on is also needed by the information industry across different sectors and countries.

If ever there was a time for publishers to act to improve the user experience, it is here and now.

Recommended reading

- RA2I website: <https://ra2i.org/>
- Jenny Walker's presentation at 2018 SU Library Symposium:
<http://conferences.sun.ac.za/public/conferences/53/presentations/walker.pdf>
- Recommended Practices for Improved Access to Institutionally-Provided Information Resources: Results from the Resource Access in the 21st Century (RA2I) Project
https://groups.niso.org/apps/group_public/download.php/21376/NISO_RP-27-2019_RA2I_Identity_Discovery_and_Persistence-public_comment.pdf
- OpenAthens website: <https://openathens.org/>
- OpenAthens response to RA2I recommendations:
<https://openathens.org/ra2i-recommendations/>

Thank you!

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