



RA21

**SIMPLE, TRUSTED ACCESS –
ANYWHERE, ANYTIME, ON ANY DEVICE**

Ralph Youngen, American Chemical Society

Chris Shillum, Elsevier

Co-Chairs, RA21

Todd Carpenter, Executive Director,

National Information Standards Organization (NISO)

Community calls for change are growing

THE SCHOLARLY
kitchen
What's Hot and Cooking In Scholarly Publishing

ABOUT

Of Paywalls and Proxies: The Buzz about Access at ER&L 2019

By LETTIE Y. CONRAD | MAR 19, 2019 | 6 COMMENTS

“...our shared systems for authentication are out of step in today’s information economy and reinvented access controls are in immediate need of our collective attention.”

“I counted more than a dozen talks on link resolvers, [RA21](#), open access and other sales models. While proxy services and IP-based certification still rules the day, the buzz of the conference was pointing to a brave new future in access controls.”

FIM4R

“Every researcher is entitled to focus on their work and not be impeded by needless obstacles nor required to understand anything about the FIM infrastructure enabling their access to research services. The recommendations ... highlight well-established practices ... whose widespread adoption would represent a huge boost to usability of federated access mechanisms by users engaged in collaborative research activities.”

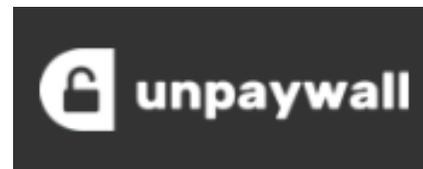
<https://fim4r.org/wp-content/uploads/2018/06/FIM4R-version-2-final-draft-20180611.pdf>

No comprehensive solution exists

- Robust marketplace for “Access Brokers” has emerged in recent years.

Google Scholar

Campus Activated
Subscriber Access
(CASA)



- But these are all imperfect solutions:

- Often have to be paid for as add-on services
- Must be installed or configured by end users prior to starting a research discovery journey. Must be installed on all devices under the user’s control.
- Not based on industry standard authentication technologies
- Typically require creation of individual user accounts, potentially compromising privacy.
- May capture and store a copy of the user’s institutional credentials, potentially creating a security risk.

Surely there is a better way...

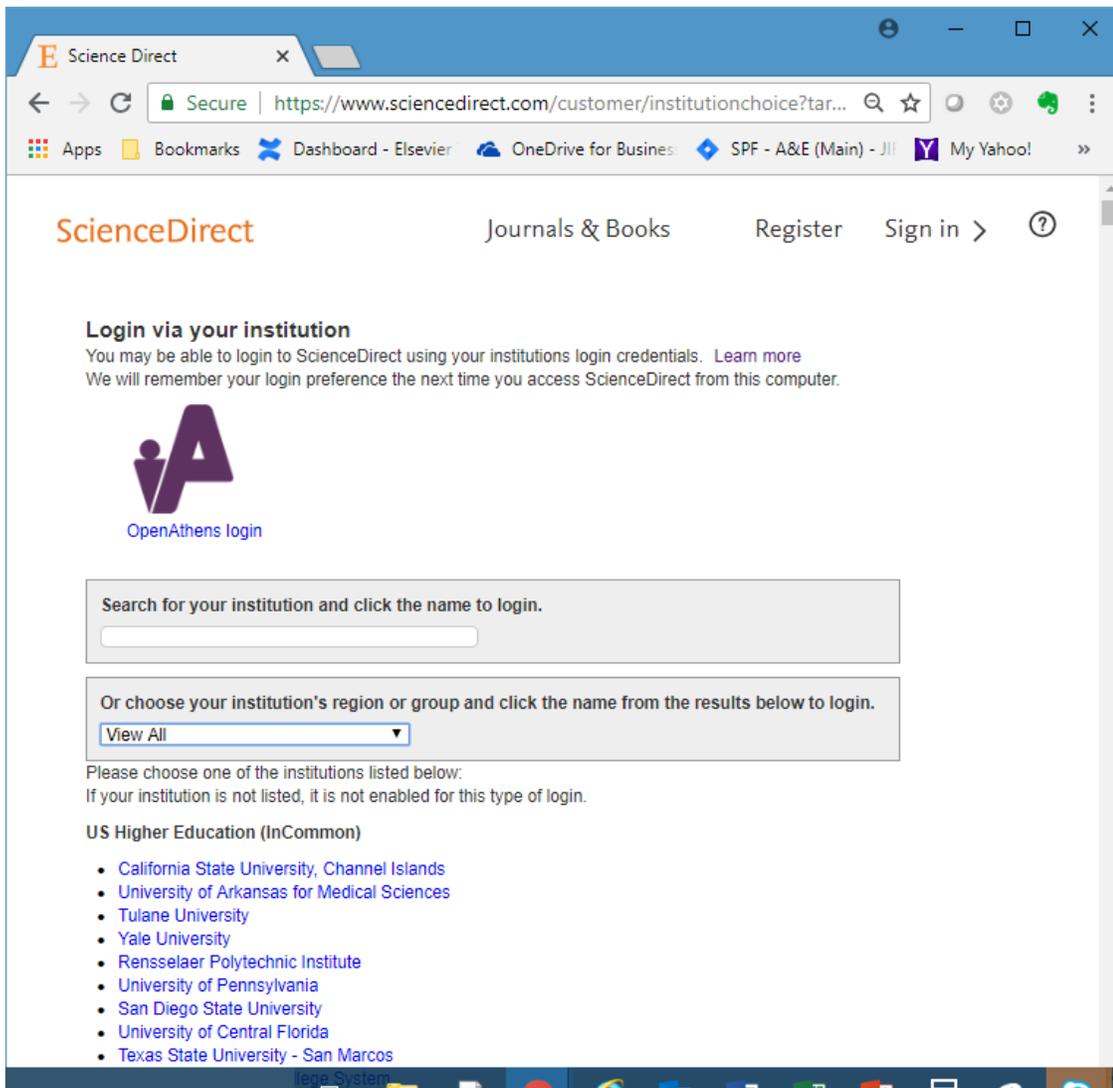
Access to scholarly content, especially off-network, needs to be fixed

- Federated authentication using SAML (“Shibboleth”) solves most of the problem
 - Multilateral trust
 - Mature technology
 - Widely deployed and supported by scholarly information providers
 - Widely adopted and deployed by academic institutions
 - Widely deployed by corporate customers

But Poor User Experience = Low Adoption

Even though Shibboleth has been supported by most publishers for off-network access for years, uptake is very low because the user experience is quite poor.

RA21 will dramatically improve that user experience.



RA21 UX Building Blocks

1

Consistent visual cue
and call to action signals
institutional access



Access Through Your Institution

To get document (PDF, etc.)

1. Find your institution
2. Log in at your institution site
3. Get this document

2

Flexible and smart search

- Search by institution name, abbreviation or email
- Typeahead matching and URL

Find Your Institution

Your university, organization or company



Examples: Science Institute, xxx@YourInstitution.edu, UCLA

We found these institutions

University of Minnesota
University of Minnesota, All Campuses
Search matched *University of Minnesota*

umn.edu

3

Remembered institution
on next access

Choose Your Institution

Institutions you used previously



University of Minnesota



+ Choose another

RA21 UX Goals

1

A user only encounters a discovery process once (per browser).



Find Your Institution

Your university, organization or company

Examples: Science Institute, xxx@YourInstitution.edu, UCLA

We found these institutions

University of Minnesota University of Minnesota, All Campuses Search matched <i>University of Minnesota</i>	umn.edu 🔗
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2

The user's institution is persisted in browser local storage and subsequently rendered in the RA21 button across all participating publishers.



Repositioning “Access”

- Common criticism of RA21 (esp. academic library community) is that Open Access makes RA21 irrelevant
- Making a purposeful shift in our messaging:
 - Away from RA21 as sustaining publisher paywalls
 - Toward RA21 as providing seamless access to institutionally-provided resources of all kinds
 - Meeting researcher demands to remove access hassles (FIM4R whitepaper)



RA21 can confirm “access” to institutional discounts for paying APCs

RA21 can facilitate “access” to research infrastructure

Apple Store for Education Institution

Find Your School to Sign In, Register, or Browse as Guest

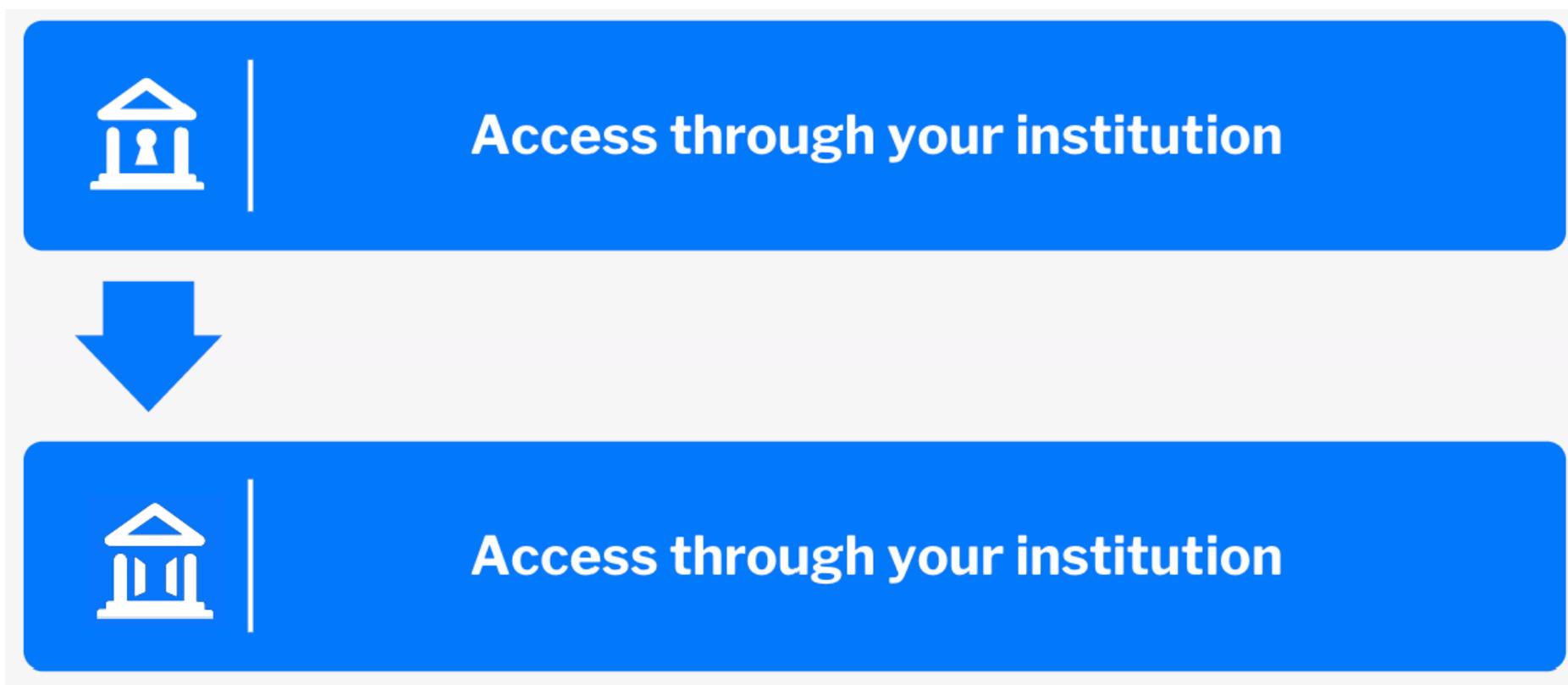
Find Your School



RA21 could even facilitate “access” to Apple’s student discounts

Minor UI change following branding study

Moving from lock-and-key metaphor to open-door metaphor





supramolecular block copolymers

[All](#) [Images](#) [News](#) [Shopping](#) [Videos](#) [More](#) [Settings](#) [Tools](#)

About 827,000 results (0.36 seconds)

Supramolecular Block Copolymers under Thermodynamic Control ...

<https://pubs.acs.org/doi/10.1021/jacs.8b02706>

by B Adelizzi - 2018 - Cited by 7 - Related articles

May 7, 2018 - **Supramolecular block copolymers** are becoming attractive materials in nascent optoelectronic and catalytic technologies. ... The multiblock structure of the **supramolecular copolymers** originates from the fine balance between favorable hydrogen-bonding interactions and a small mismatch penalty between two different monomers.

Versatile self-assembly of supramolecular block copolymers with ionic ...

<https://pubs.rsc.org/en/content/articlelanding/2016/py/c6py00514d>

by X Cao - 2016 - Cited by 3 - Related articles

These **polymers** exhibit **versatile self-assembly** behaviours not only dependent on the molecular weight but also adaptive to the concentration and.

Structural Properties and Phase Behavior of Crosslinked Networks in ...

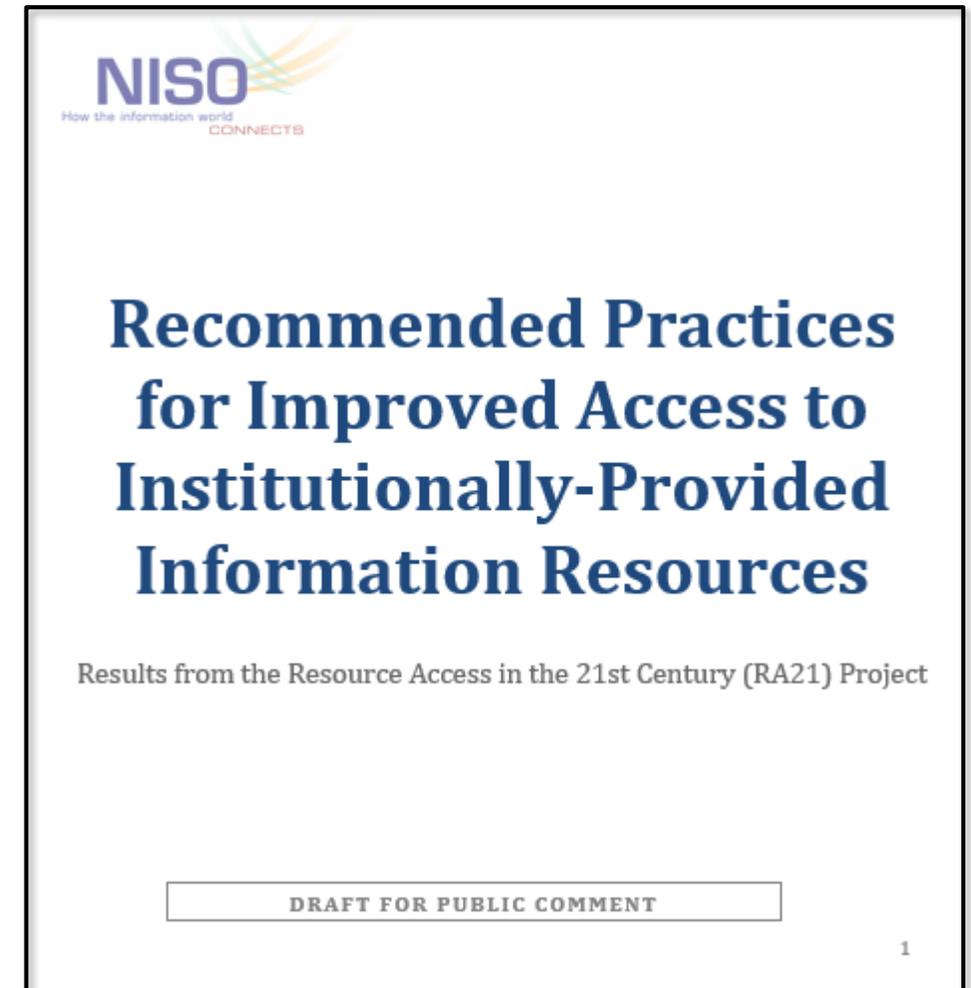
<https://www.tandfonline.com/doi/abs/10.1080/00222348.2016.1146977>

by F Benmouna - 2016 - Cited by 1 - Related articles

Structural properties and **phase behavior** of **crosslinked networks** embedded in polymer solutions are theoretically investigated. The **partial structure factor** of the ...

NISO Recommended Practice

- Draft for public comment was formally submitted to NISO earlier this week
- Contains results from 2.5 years of UI/UX refinement, along with feedback received from live testing with more than 100 practicing academic and corporate researchers



Key Recommendations

1. Adopt Multilateral Federated Authentication
2. Establish Multilateral Identity Federations where they do not exist
3. Ensure that Privacy is Preserved while Enabling Convenient SSO and Granular Authorization
4. Improve the User Experience of Identity Provider Discovery
5. Establish a Central Identity Provider Persistence Service
6. Improve [SAML] Metadata Quality and Apply Consistent Standards
7. Set Session Timeout Periods Contextually Based on the Type of Being Accessed and Institutional Risk Management Policy

Key UX Recommendations: Implement a standardized “Access through your institution” button



+ Access through another institution



DO Layout example 1
Button is placed below abstract, visible without scroll



DON'T Layout example 3
Do not place button where it is not visible without scroll

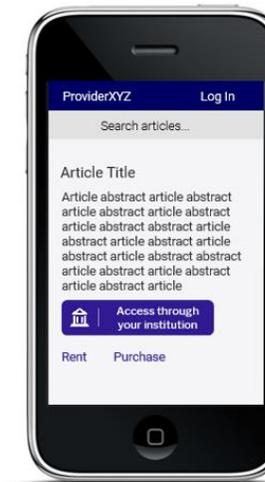
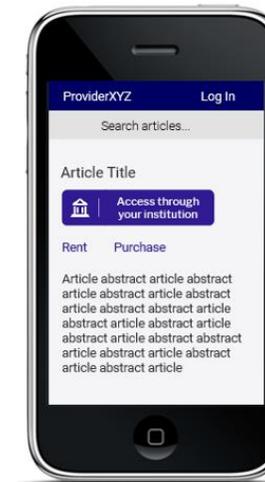
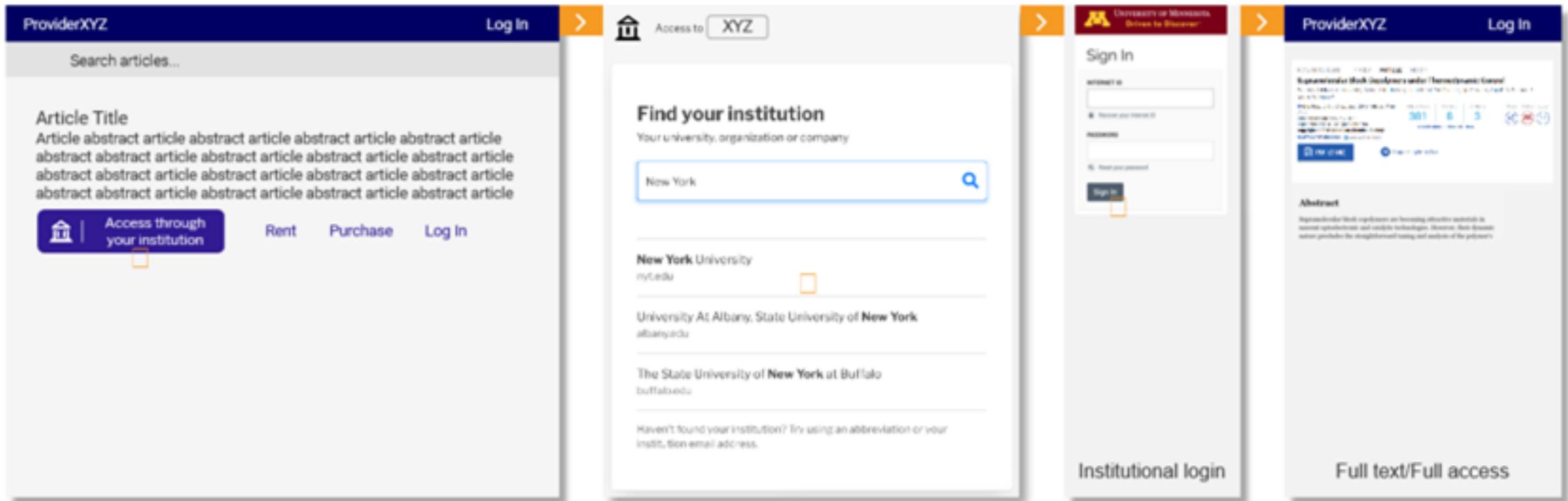


Figure 3b. Apply similar best practice recommendations when adding the access button to a mobile or responsive Service Provider page

Key UX Recommendations: Implement a standardized Identity Provider Discovery flow

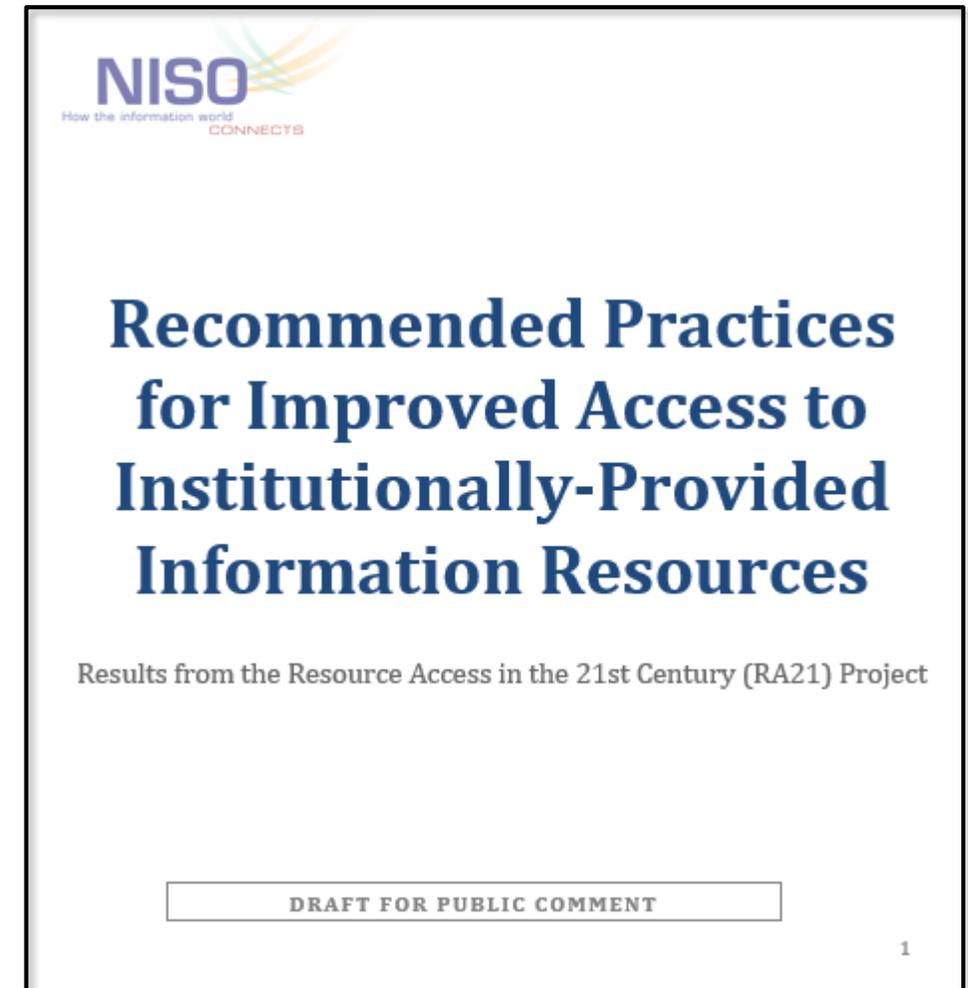


The NISO Process and Library Expectations for RA21

Todd Carpenter
Executive Director, NISO

NISO Recommended Practice – Ratification Process

- Public comment period opens next week
- Comment period is 30 days, ending on May 17
- Anyone may submit comments; A link to the comments page will be posted on the RA21 and NISO websites
- Allowing ~1 month for final revisions following public comment period



Library expectations of privacy

Librarians have an ethical, and sometimes a legal duty to protect the privacy of the users that they serve, regardless of whether that user cares about it

- Data gathering should be minimal, and as anonymous as possible.
- Informed consent, if done appropriately, can mitigate these issues
- GDPR has only expanded awareness of privacy

Preference for current solutions is often based on organizational rather than technical concerns

What Will You Do When They Come for Your Proxy Server?

RA21 aims to replace IP address authentication (and proxy servers) with federated identity authentication – but have we thought through the implications?

By LISA JANICKE HINCHLIFFE | JAN 16, 2018 | 39 COMMENTS



- Controlling the proxy, means controlling the data and the services. Passing that to IT is scary.
- Integration of RA21 into existing technology services stack will help.

SAML: Privacy Protecting or Not?

- Proxy servers protect the user's identity by masking the underlying authentication mechanism behind a unique network address

It is NOT the case that the proxy doesn't know who the user is

- SAML can do the same thing, through different means – the use of attributes and pseudonymous IDs
- SAML is flexible and has a variety of use cases: we need to develop a SAML profile (norm) for the use case of access to library information resources and meets the privacy expectations of librarians and researchers

Attribute Release and Privacy Recommendations

1

Adopt GÉANT Data Protection Code of Conduct

Developed by identity management community and institutional representatives.

Enshrines principles of

- Legal compliance
- Purpose limitation
- Legal compliance

<https://geant3plus.archive.geant.net/uri/dataprotection-code-of-conduct/V1/Pages/default.aspx>

2

Establish attribute release profile for library information resources

- Assert that the user is a member of the institution's authorized user community for the resources being accessed using an anonymous attribute.
- Enable SSO to any personalized features the resource may offer using institutional credentials via a pseudonymous pairwise user identifier.

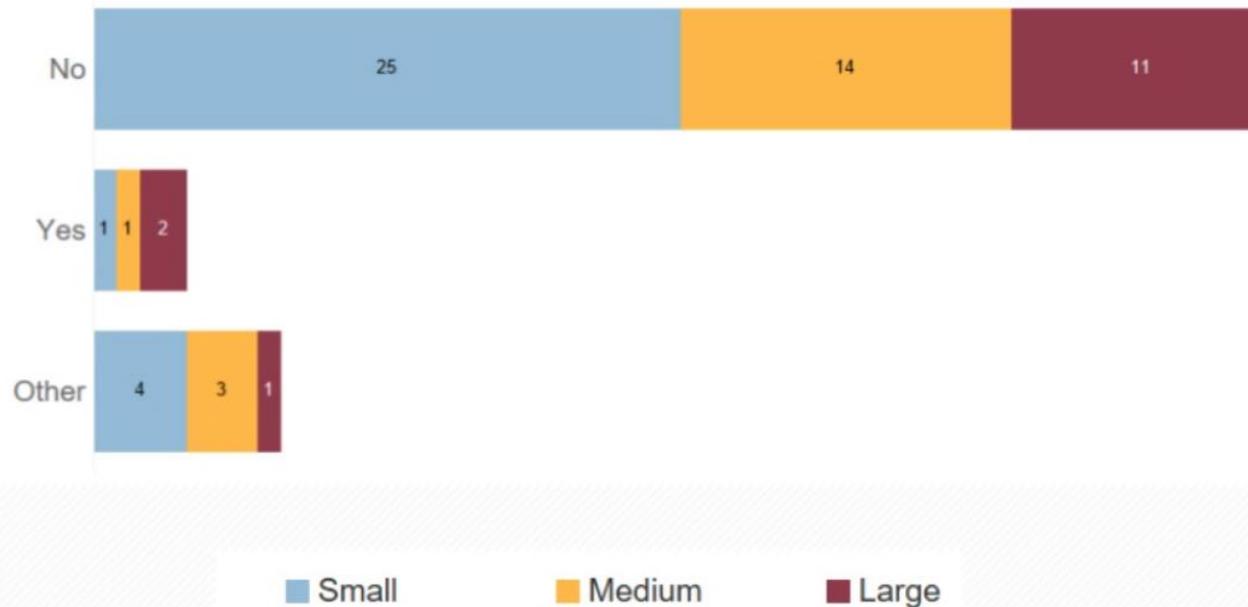
Institutions control data attribute release.

The IT reality for most libraries!

- In academia, IT and identity management is not run out of the library and doesn't often report through the same structures
- IT may establish attribute release policies and other norms that are not always in keeping with library values, especially privacy

Interactions between library and campus IT must improve

Staff person dedicated to library support from campus IT?



[Amy Pawlowski and Mark Beadles \(OhioLink\) Authentication and Access of Licensed Content in Ohio: A Summary](#)

RA21 will require greater interactions between libraries and IT

And this should be viewed as a good thing.

RA21 and the future of authentication

The SAML infrastructure that RA21 is built upon is well-established, widely deployed, and proven to be secure

Institutions have years of experience working with it

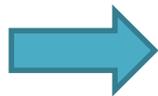
SAML can effectively preserve privacy through the use of attributes and pseudonymous IDs

Transitioning RA21 into an Operational Service

Chris Shillum, Elsevier
Co-Chair, RA21

Building a coalition to take the project forward

RA21



THE COALITION FOR
SEAMLESS ACCESS

STM
The global voice of
scholarly publishing

INTERNET²

NISO
How the information world
CONNECTS

ORCID
Connecting Research
and Researchers

GÉANT

IFLA
International Federation of
Library Associations and Institutions

(Early Discussions)

Proposal: Coalition will jointly take project forward under a lightweight structure

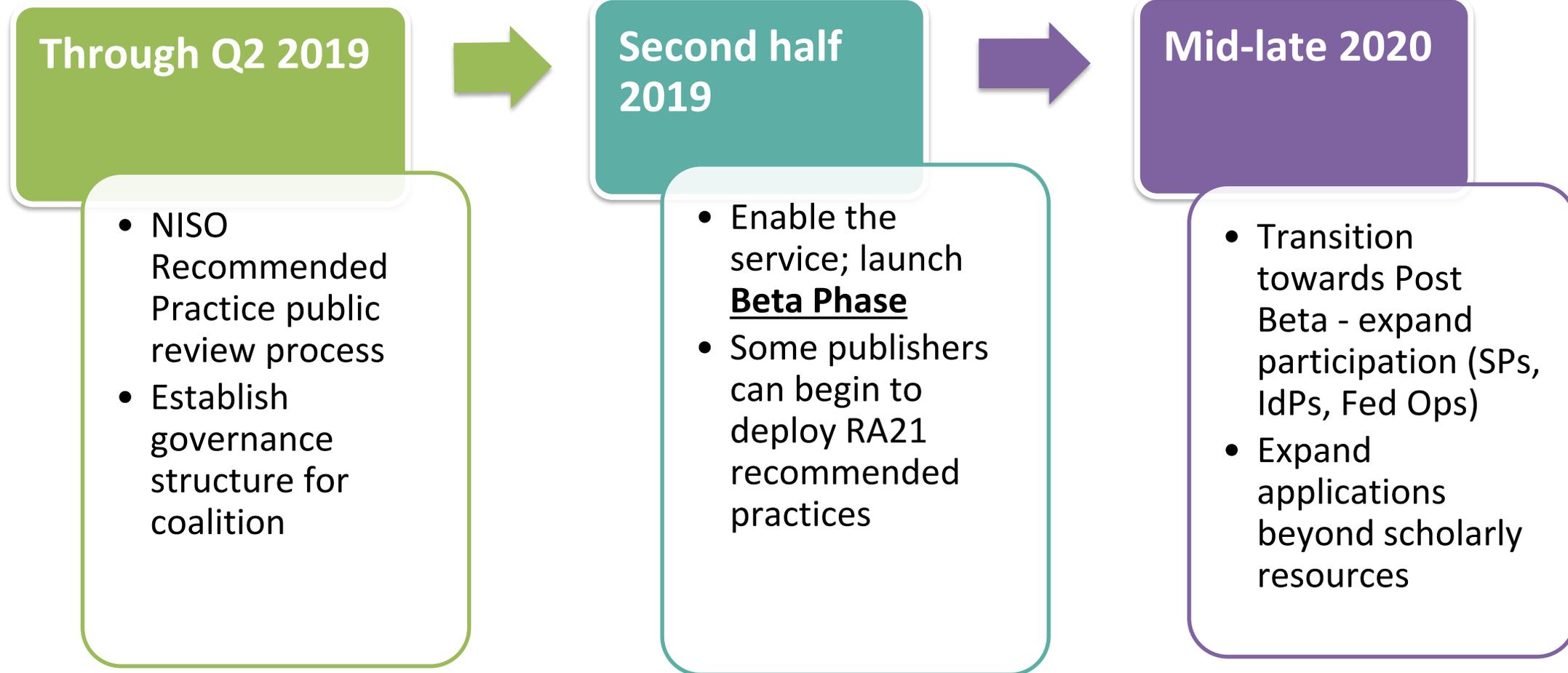
- Coalition Partners to sign lightweight MoU
- Avoids overhead of creating a new single-purpose non-profit entity

Organization	Role
STM	Secretariat Publisher Outreach Further UX Development
NISO	Library Outreach
GEANT/Internet2 (via SUNET)	Technical Development 24x7 Operations
ORCID	Community engagement
IFLA	tbd (early discussions)

Coalition for Seamless Access: Draft mission/purpose statement

The Coalition for Seamless Access exists to foster a seamless experience when using **scholarly collaboration tools, information resources, and shared research infrastructure**. The Coalition promotes digital authentication leveraging an existing single-sign-on infrastructure through one's home institution, while maintain an environment that protects personal data and privacy. **The Coalition aims to enable simple, trusted use of scholarly resources and services anytime, anywhere, and on any device.**

RA21/Seamless Access: Roadmap and Timeline



Seamless Access Beta Phase

- Commencing mid-2019, duration 6-12 months
- Goals:
 - Test feasibility and strength of coalition.
 - Encourage broad adoption of NISO Recommended Practices
 - Implement production-quality, production-scale services
 - Including support from publisher platform providers
 - Implementation testing for publishers and non-scholarly service providers
 - End-user testing via coordination from libraries and publishers
 - Research to:
 - Confirm value to users and adopters
 - Identify risks (if any) to adopters

Beta Implementation: Central Infrastructure and Services

- SUNET (via funding from GEANT) has been identified as the home for identity provider persistence service and a central discovery service for the Beta Phase

Criteria

- Perceived as neutral by publishers, librarians, federation operators, etc.
- Capable of supporting 24/7 infrastructure
- Experienced running high availability critical infrastructure
- Willing and able to support a global model
- Financially sustainable long-term

Elements of the Seamless Access Beta service

- A **common UI element** (e.g., a button) that SPs may add to their sites to invite users to authenticate with a federated identity or initiate the IdP discovery process.
- An optional **improved, search-based IdP discovery experience** which makes use of enhanced IdP metadata to enable reliable selection of the appropriate IdP using institution name or email domain.
- A **centralized IdP persistence service** which enables a user's previous choice of IdP to be remembered by their browser across participating SPs, thus decreasing the frequency with which the user has to choose their IdP.

Expectations of Beta Implementors

1 Implement the Access Button and IdP persistence service on your sites per the RP guidelines

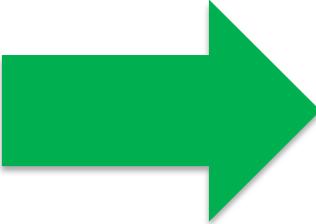
OR

Encourage your hosting provider to do so

2 Be prepared to share aggregate data about success metrics (being developed), e.g.

- Access success rates
- User satisfaction with access processes
- Reduction in support tickets

Roll-out Strategy

- Initial focus will be on adopting RA21 recommendations as broadly as possible as a supplement to IP for remote access (off campus)
 - Also suggested as the primary/only access method for organizations that can't use IP (e.g. corporate customers using cloud ISPs such as zScaler)
- 
- This will allow us to monitor and measure success rates and build a case for RA21 as the primary access method for all customers



QUESTIONS?