

Research and Scholarship Entity Category

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Overview

Research and Education Federations are invited to use the REFEDS Research and Scholarship Entity Category with their members to support the release of attributes to Service Providers meeting the requirements described below.

The key words "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT", "SHOULD", "SHOULD NOT", "RECOMMENDED", "MAY", and "OPTIONAL" in this document are to be interpreted as described in RFC 2119 [[RFC2119](#)].

This definition is written in compliance with the Entity Category SAML Entity Metadata Attribute Types specification [[EntityCatTypes](#)]; this specification may be extended to reference other protocol-specific formulations as circumstances warrant.

An FAQ for the Entity Category has been made available to help deployments [[R&SFAQ](#)].

1. Definition

Candidates for the Research and Scholarship (R&S) Category are Service Providers that are operated for the purpose of supporting research and scholarship interaction, collaboration or management, at least in part.

Example Service Providers may include (but are not limited to) collaborative tools and services such as wikis, blogs, project and grant management tools that require some personal information about users to work effectively. This Entity Category should not be used for access to licensed content such as e-journals.

Identity Providers may indicate support for Service Providers in this category to facilitate discovery and improve the user experience at Service Providers. Self-assertion is the typical approach used but this is not the only acceptable method.

The following sections detail the requirements for both Service Providers and Identity Providers, in category membership and support respectively.

2. Syntax

The following URI is used as the attribute value for the Entity Category and Entity Category Support attribute: <http://refeds.org/category/research-and-scholarship>.

3. Semantics

By asserting a Service Provider to be a member of an Entity Category, a registrar claims that:

- 3.1 The Service Provider has applied for membership in the Category and complies with the R&S registration criteria.
- 3.2 The Service Provider's application for R&S has been reviewed and approved by the registrar.

In possessing the Entity Category Attribute with the above value, a Service Provider claims that it will not use attributes for purposes that fall outside of the service definition as presented at the time of registration to its users and referred to in metadata.

In possessing the Entity Category Support Attribute with the above value, an Identity Provider claims that it will release attributes to R&S Service Providers as outlined in the "Identity Provider Requirements" section below.

4. Registration Criteria

When a Service Provider's registrar (normally the Service Provider's home federation) registers the Service Provider in the Entity Category, the registrar **MUST** perform at least the following checks:

- 4.1 The service enhances the research and scholarship activities of some subset of the user community.
- 4.2 Service metadata has been submitted to the registrar for publication.
- 4.3 The service meets the following technical requirements:
 - 4.3.1 The Service Provider is a production SAML deployment that supports SAML V2.0 HTTP-POST binding.
 - 4.3.2 The Service Provider claims to refresh federation metadata at least daily.
 - 4.3.3 The Service Provider provides an mdui:DisplayName and mdui:InformationURL in metadata (an english language version xml:lang="en" is RECOMMENDED).
 - 4.3.4 The Service Provider provides one or more technical contacts in metadata.

R&S Service Providers **MUST** resolve issues of non-compliance within a reasonable period of time from when they become aware of the issue. Failure to do so **MUST** result in revocation of the entity's membership in the R&S category.

5. Attribute Bundle

The mechanism by which this entity category provides for consistent attribute release is through the definition of a set of commonly supported and consumed

attributes typically required for effective use of R&S services. The attributes chosen represent a privacy baseline such that further minimization achieves no particular benefit. Thus, the minimal disclosure principle is already designed into the category.

The use of the <md:RequestedAttribute> mechanism supported by SAML metadata is outside the scope of this category, and may co-exist with it in deployments as desired, subject to this specification's requirements being met.

The *R&S attribute bundle* consists (abstractly) of the following required data elements:

- *shared user identifier*
- *person name*
- *email address*

and one optional data element:

- *affiliation*

where *shared user identifier* is a persistent, non-reassigned, non-targeted identifier defined to be either of the following:

1. eduPersonPrincipalName (if non-reassigned)
2. eduPersonPrincipalName + eduPersonTargetedID

and where *person name* is defined to be either (or both) of the following:

1. displayName
2. givenName + sn

and where *email address* is defined to be the mail attribute, and where *affiliation* is defined to be the eduPersonScopedAffiliation attribute.

All of the above attributes are defined or referenced in the [[eduPerson](#)] specification. The specific naming and format of these attributes is guided by the protocol in use. For SAML 2.0 the [[SAMLAttr](#)] profile MUST be used. This specification may be extended to reference other protocol-specific formulations as circumstances warrant.

6. Service Provider Requirements

Service Providers SHOULD limit their data requirements to the bundle of attributes defined in Section 5, but MAY negotiate for additional data as required via mechanisms that are outside the scope of this specification.

Service Providers are strongly encouraged to support all of the specified alternatives for the shared user identifier and person name attributes described in Section 5 to maximize interoperability. Failure to do so will result in problems even when working exclusively with Identity Providers that claim support for the category. In the case of the eduPersonTargetedID attribute, this recommendation includes the ability to support the SAML 2.0 "persistent" NameID, which is the recommended modern expression of the eduPersonTargetedID attribute in SAML 2.0.

In accordance with the requirements in Section 7, if an Identity Provider exhibits the R&S entity attribute in its metadata and no accompanying eduPersonTargetedID attribute is received, then Service Providers can rely on the non-reassignment of eduPersonPrincipalName values it receives from that Identity Provider.

Alternatively, Service Providers can obtain a non-reassigned *shared user identifier* by combining (e.g., concatenating) the `eduPersonPrincipalName` and `eduPersonTargetedID` values. If a given combination of the two values ever changes, Service Providers can assume that the `eduPersonPrincipalName` has been reassigned and now represents a different subject. A Service Provider that conforms to R&S would exhibit the following entity attribute in SAML metadata:

An entity attribute for SPs that conform to R&S:

```
<mdattr:EntityAttributes
xmlns:mdattr="urn:oasis:names:tc:SAML:metadata:attribute">
  <saml:Attribute
    xmlns:saml="urn:oasis:names:tc:SAML:2.0:assertion"
    NameFormat="urn:oasis:names:tc:SAML:2.0:attrname-format:uri"
    Name="http://macedir.org/entity-category">
    <saml:AttributeValue>http://refeds.org/category/research-and-scholarship</saml:AttributeValue>
  </saml:Attribute>
</mdattr:EntityAttributes>
```

7. Identity Provider Requirements

An Identity Provider indicates support for the R&S Category by exhibiting the R&S entity attribute in its metadata. Such an Identity Provider **MUST**, for a significant subset of its user population, release all required attributes in the bundle defined in Section 5 to all R&S Service Providers, either automatically or subject to user consent or notification, without administrative involvement by any party.

An Identity Provider that does not release all of the required elements of the R&S attribute bundle (defined in section 5), for any reason, **SHALL NOT** exhibit the R&S entity attribute in its metadata. Exceptions that limit the release of attributes to specific R&S Service Providers may be permitted in the event of a security incident or other isolated circumstances.

A persistent, non-reassigned, non-targeted identifier is **REQUIRED**. If the Identity Provider's deployment of `eduPersonPrincipalName` is non-reassigned, and the organization believes in good faith that it will remain so, it will suffice. Otherwise the Identity Provider **MUST** release `eduPersonTargetedID` (which is non-reassigned by definition) in addition to `eduPersonPrincipalName`. In any case, release of both shared user identifiers is **RECOMMENDED**.

At least one of `displayName` or `givenName` + `sn` is **REQUIRED**. The release of all three person name attributes (`displayName`, `givenName`, `sn`) is **RECOMMENDED**.

Identity Providers are strongly encouraged to release the entire attribute bundle (both required and optional attributes) defined in Section 5 to R&S category Service Providers, both to maximize interoperability and the scope of supported services. The only optional data element is *affiliation*, which while different in nature to the rest of the bundle, is important to many R&S services and is a particular differentiator for academic organizations.

An Identity Provider that supports R&S would exhibit the following entity attribute in SAML metadata:

An entity attribute for IdPs that support R&S:

```
<mdattr:EntityAttributes
xmlns:mdattr="urn:oasis:names:tc:SAML:metadata:attribute">
  <saml:Attribute
    xmlns:saml="urn:oasis:names:tc:SAML:2.0:assertion"
    NameFormat="urn:oasis:names:tc:SAML:2.0:attrname-format:uri"
    Name="http://macedir.org/entity-category-support">
    <saml:AttributeValue>http://refeds.org/category/research-and-
scholarship</saml:AttributeValue>
  </saml:Attribute>
</mdattr:EntityAttributes>
```

8. References

[[eduPerson](#)] Internet2 MACE Directory Working Group, "eduPerson Object Class Specification (201602)", February 2016.

[[EntityCatTypes](#)] Young, I, Johansson, L, and Cantor, S Ed., "The Entity Category SAML Attribute Types", July 2014.

[[R&SFAQ](#)] Harris, N., "Research and Scholarship FAQ", November 2014.

[[RFC2119](#)] Bradner, S., "Key words for use in RFCs to Indicate Requirement Levels", BCP 14, RFC 2119, March 1997.

[[SAMLAttr](#)] Internet2 MACE Directory Working Group, "MACE-Dir SAML Attribute Profiles", April 2008.