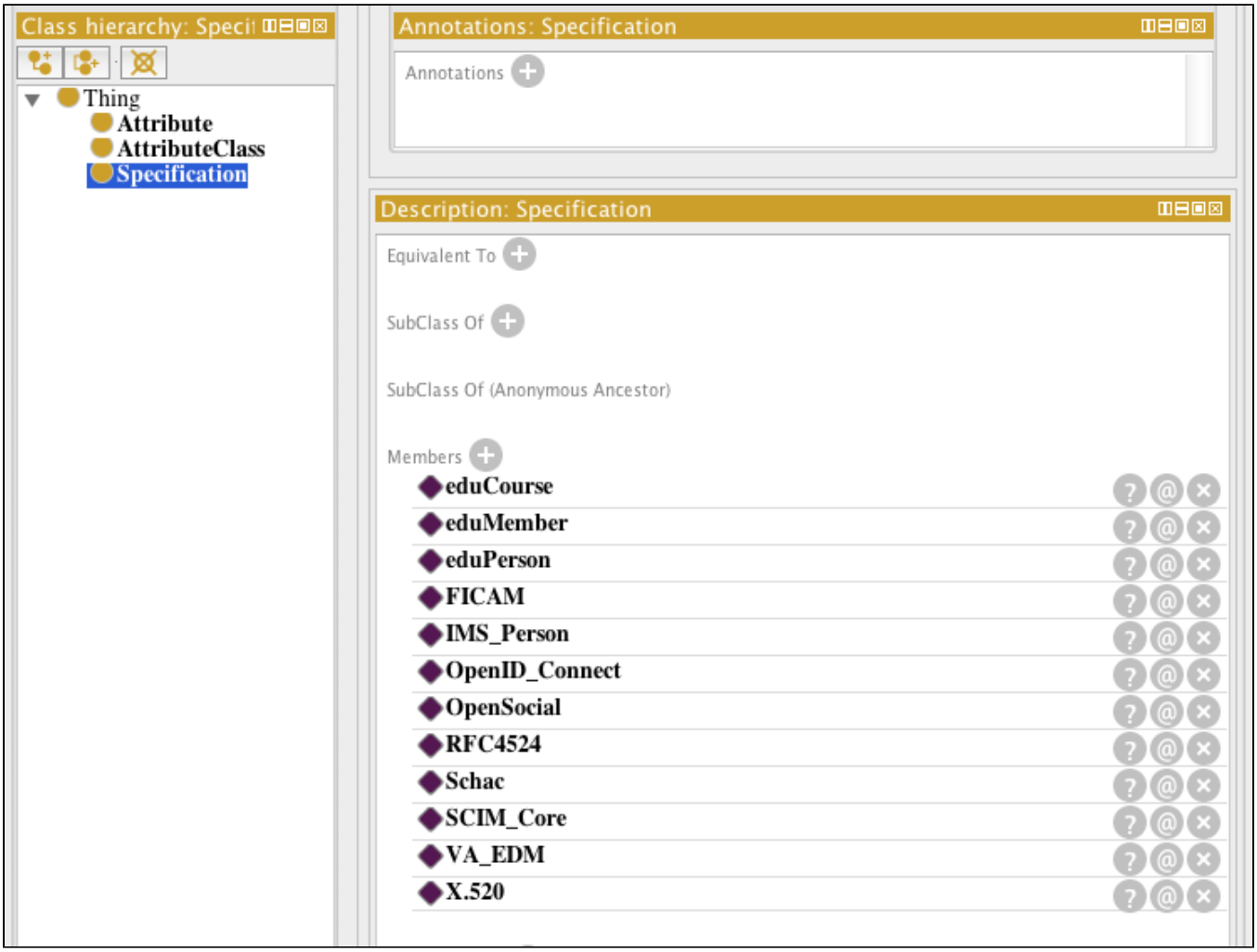
Attribute Registry Overview

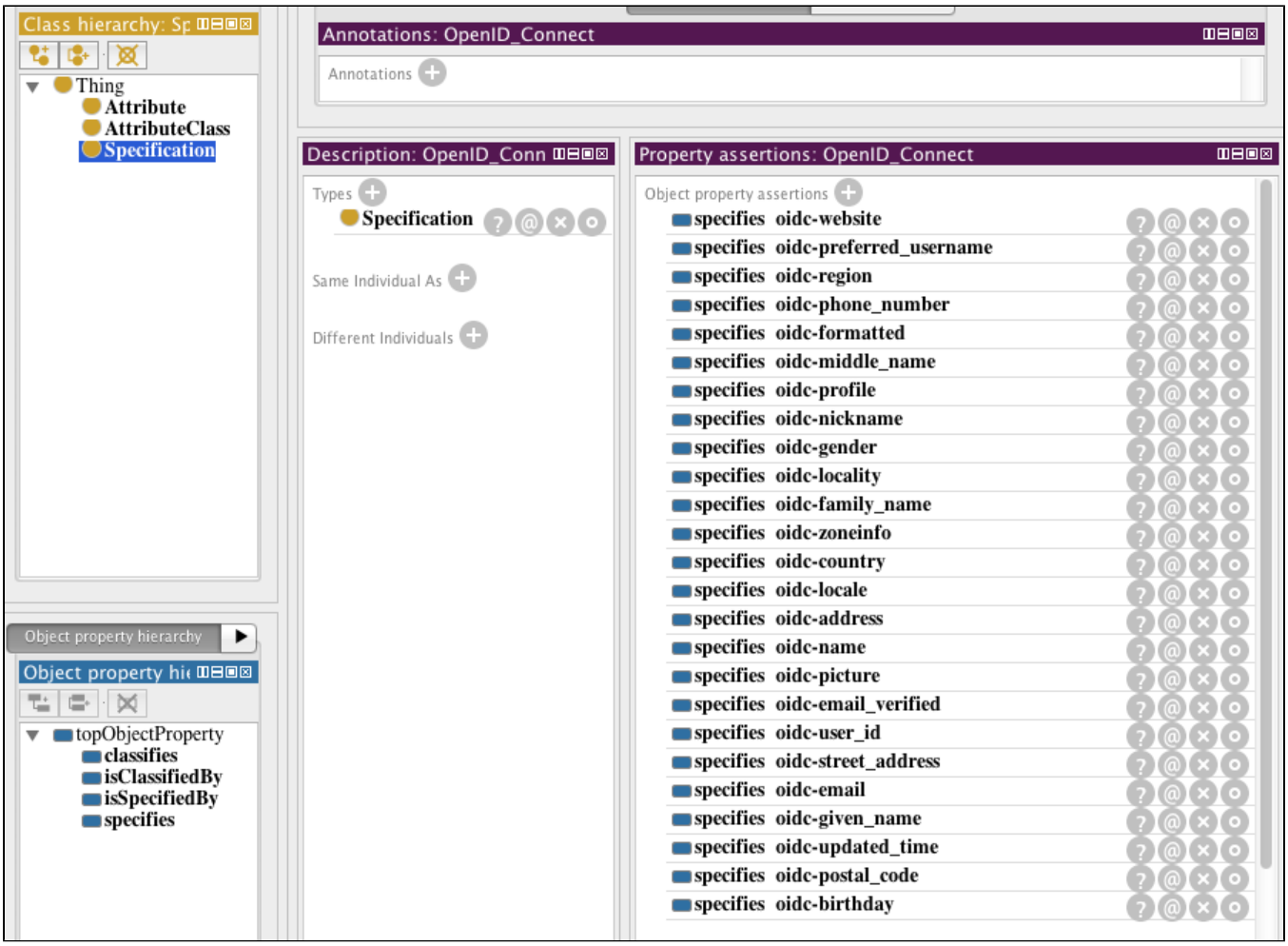
Version 1.1 of the Attribute Registry is the latest release of one of the early deliverables from the Scalable Privacy project.

The core data elements are attributes, each of which comes from one of a defined set of specifications or standards. The images in this overview were taken directly from the ontology tool, Protégé, used to maintain the registry. A web-accessible version of the registry is available at http://webprotege.stanford.edu/#Edit:projectId=623e0196-844a-4d86-a65b-b4d2f923ab97

Specifications

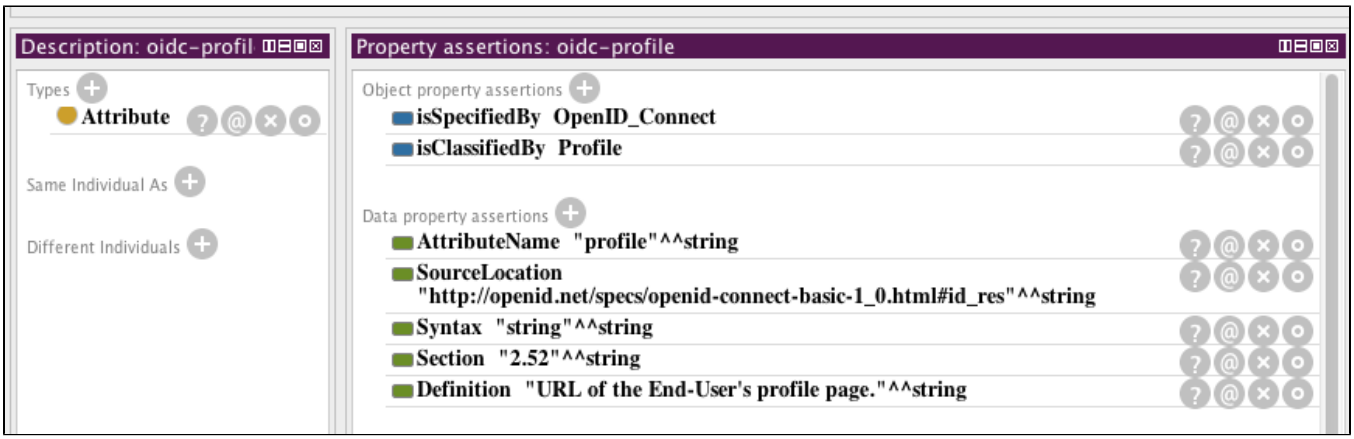


Each attribute of the 715 attributes currently in the registry is associated with the specification that defines it. For example, the OpenID Connect specification covers the following attributes:

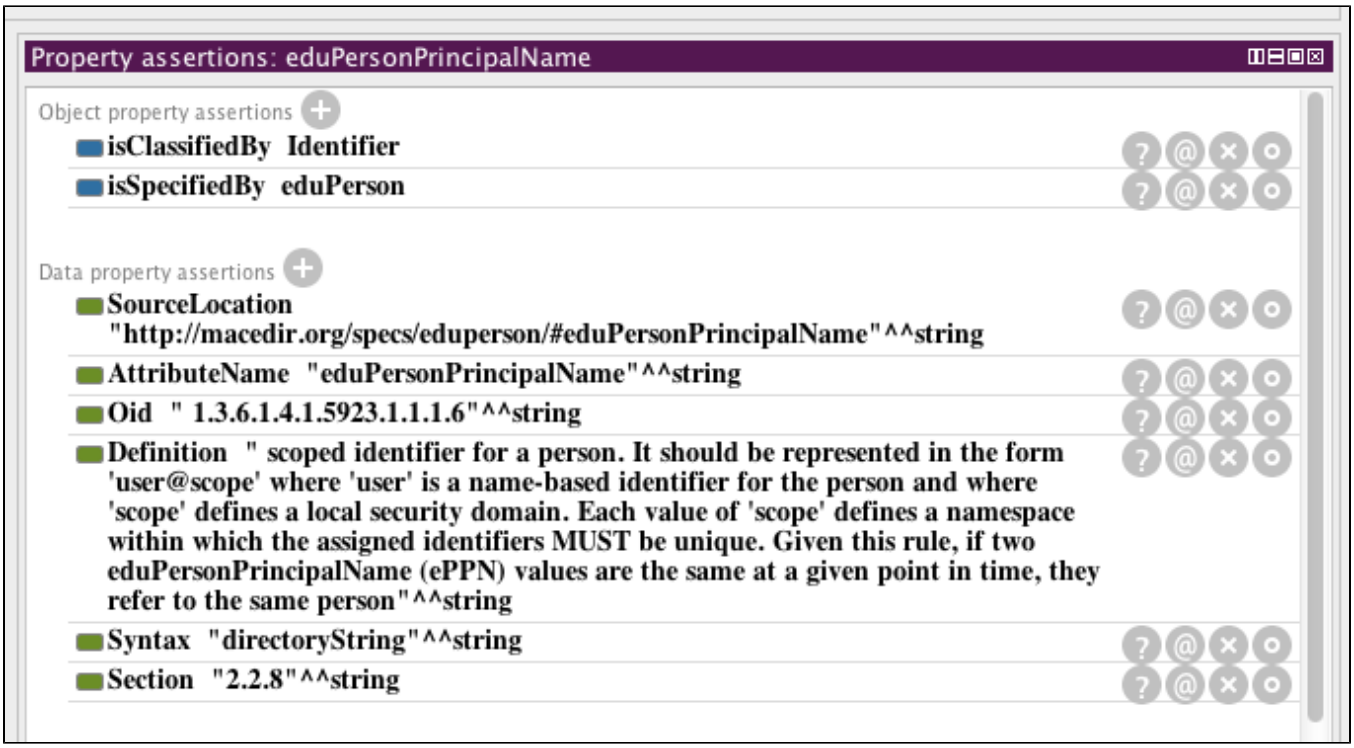


Attributes

An example attribute entry in the registry appears as follows (this is the Profile attribute from OpenID Connect):



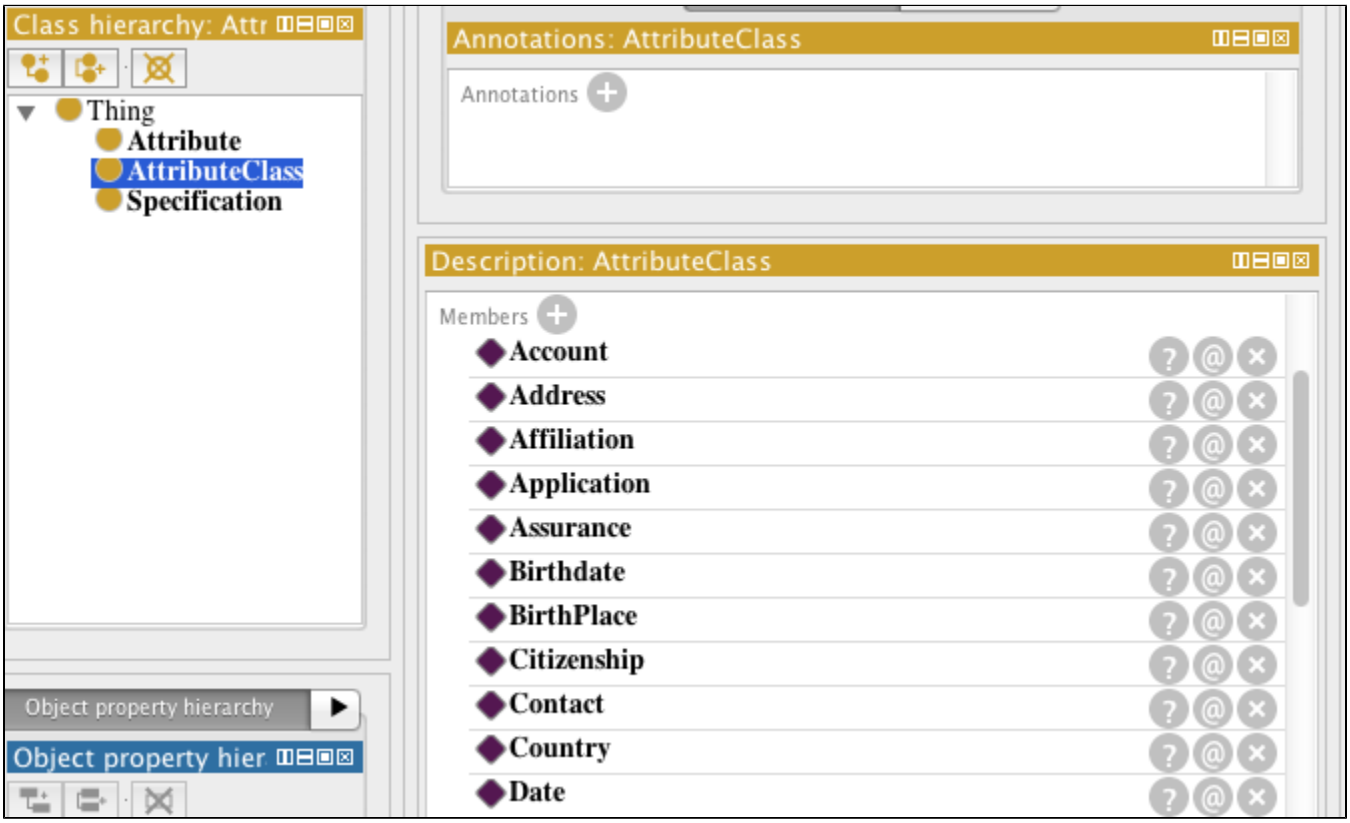
Note the metadata (Object properties and Data properties) recorded in the registry for the Profile attribute. Version 1.0 contains a minimal set of metadata elements. Other types of metadata may be added to suit emerging needs in the attribute ecosystem work.
Another example attribute entry in the registry is eduPersonPrincipalName from the eduPerson specification:



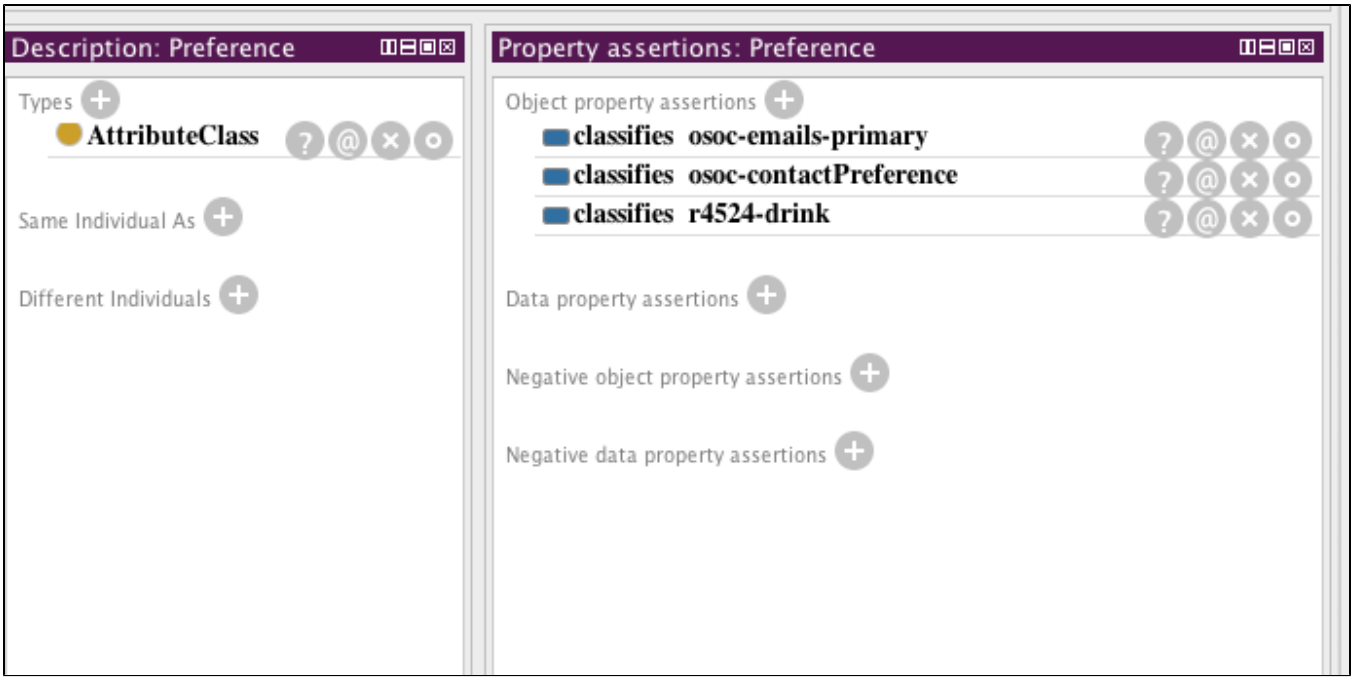
Note the relatively full Definition element in this case. This is drawn from the specification itself.

Attribute Class

At the top of the eduPersonPrincipalName example above, there is the object property "isClassifiedBy" with the value "Identifier". This is an example of a metadata element meant to categorize attributes across specifications into a defined set of types. This metadata element is called "Attribute Class". Here is the first part of a listing of the currently defined attribute classes:

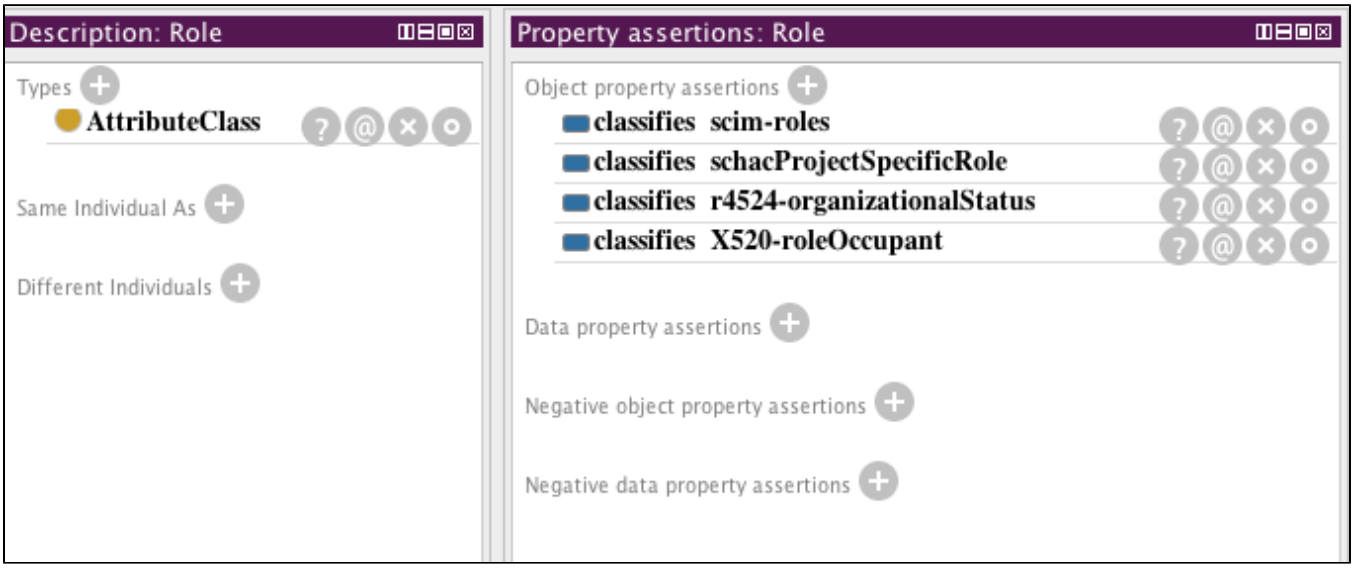


A couple examples will clarify the notion of attribute class. Take the example of attributes relating to preferences.



The Open Social specification (attributes whose prefix is "osoc") contains two attributes in the class "preference". The LDAP specification (currently RFC4524) contains an attribute "drink" which indicates personal preference as well. Here is the preference attribute, osoc-emails-primary:

Another example of the attribute class metadata is "role". Several specifications (SCIM, SCHAC, LDAP and X.520) contain attributes meant to carry some definition of a person's role:



Future Work

Going forward, attributes from additional specifications and standards will be added (including schema from additional national federations in Norway and Australia). One open issue is whether the current list of attribute metadata is adequate or whether there would be value in carrying additional metadata elements in a general purpose registry of this sort.

Reference: The Currently Defined Set of Sixty-one Attribute Classes

AccessibilityProfile, Account, Address, Affiliation, Age, Anniversary, Application, Assurance
Birthdate, BirthPlace
Certification, Citizenship, Clearance, Contact, Country, Course
DN, Date, DeathDate, Description
Email, EmailMetadata, Entitlement, Ethnicity
Format
Gender, Group
HostName
Identifier
Jurisdiction
Language, Link, Locale, Location
Manager
Name, Note
Operational, Organization
Password, Phone, Photo, PhysicalCharacteristic, Pointer, Position, Preference, Presence, Privacy, Profile
Relationship, Residency, Role
Salutation, Search, StateOrProvince, StatusMessage, SuperiorNode
Tag, Timezone
URL
VitalEvent