

Get Involved with PESC EdUnify

What is EdUnify?

1. A **web service registry or index** with a suite of applications built on top of it.
2. **Web service search** implemented as a web application interface for human interaction with the registry or index and a web service interface for programmatic searches of the registry or index. The search service may be free, a chargeable service, or some combination thereof based on the requirements of the business model. For example, a simple search may be free, but semantic query tools and functionality might require a fee.
3. **Web service search management and notification**, which provides users with a means to specify and manage their searches of the registry or index over time.
4. EdUnify **interoperability services** are web applications that help users annotate web services definitions with common ontologies, so that EdUnify can apply reasoning to infer equivalencies between web services and perhaps mediate in federated queries of multiple web services.
5. EdUnify **feedback and rating services** are web applications that allow users of web services to provide feedback on the quality of the design and performance of web services. This provides valuable feedback to the developers and administrators of web services and most importantly generates more metadata for the EdUnify web service registry or index. As web services are rated, users may search for web services by quality of design and service level ratings in addition to searching by publisher, function or service metadata.
6. EdUnify **monitoring services** are web applications and processes that monitor web services that have been added to the registry or index and that are designed to be monitored for availability by independent third parties. For example, if the publisher of a web service provides target service level information and details of how to monitor their web service in their service publication feed, EdUnify can monitor that service for availability, present that data to users, and measure the availability of the service against the target service level. These operations provide a valuable service to the web service provider (independent verification of service level) and this process generates more metadata about the service for the registry or index. Users may search for web service by service level and performance in addition to publisher, function, data, user feedback and ratings.

Why is PESC working on this?

Presently it is hard to access data across higher education. Data interchange standards are not widely implemented by vendors, academic institutions, and government agencies. Where standards are implemented, the services are often not registered or documented in an infrastructure that allows them to be readily used by people building integrations and looking for data. EdUnify infrastructure will allow vendors, academic institutions, and government agencies to register their data interchange specifications and implementations and map them to standard terminology for interoperability. Users of EdUnify will be able to use these registry and annotation services to build integrations, inventory services, and access data across higher education. PESC is the right organization to undertake this effort, because it is a neutral party with a track record of success in developing and implementing standards.

History

PESC kicked off the EdUnify initiative in December 2009 with a meeting in Washington, DC. Forty people from thirty organizations attended to start gathering requirements and designing the web service registry and supporting services. The participants formed a business and a technical work group. By March 2010, the groups had documented many requirements and ideas, enough to search for existing implementations. They soon identified a close match (about 90% of the core functionality) in the BioCatalogue, a registry created for life sciences web services. BioCatalogue is a joint venture between the EMBL-EBI (European Molecular Biology Laboratory-European Bioinformatics Institute) and the myGrid project at the University of Manchester, UK. In April 2010, PESC EdUnify implemented a development and a demonstration environment of EdUnify with assistance from a team at Emory University. These environments are based on the BioCatalogue with modifications to meet additional requirements of EdUnify. The EdUnify development team is working with the BioCatalogue team to merge enhancements into the BioCatalogue, so this collaboration will continue to benefit both projects.

What's Next

Now that we have basic requirements for the registry and services and a solid foundation in the demonstration environment on which to build, the next step is to work through the remaining 10% of functionality we have not yet addressed. For example, some aspects may be specific to education or the business model for funding EdUnify and are not yet addressed by the BioCatalogue team or the team at Emory working on the core registry deployment. Now it is time to articulate and address such requirements. The task force has created a differential requirements page to capture and prioritize these requirements. Once we identify and prioritize these remaining requirements, we can address them and prepare to go live with EdUnify. The only other remaining key component we need is participation from web service providers across higher education. EdUnify would like to register fifty (50) useful web service in the registry prior to its beta launch. We would prefer even more, perhaps one hundred (100) services across several categories.

Get Involved

The best way to get involved is to identify some web services your organization offers and register them in the PESC EdUnify demo environment. While registering services and searching the registry, please make a note of any ideas you have for new features or enhancements and add them to the differential requirements page.

To identify and register some web services from your organization, compile a list of links (URIs) to the web service description (WSDL) artifacts for your services. Most organizations either have their own registry that contains this information or the integration developers or administrators can provide this list. For example, a short list of some web service WSDL URIs offered by the organization webservice is:

Service Name	Service WSDL
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Currency Converter	http://www.websvcx.com/CurrencyConvertor.asmx?wsdl
Stock Quote	http://www.websvcx.net/stockquote.asmx?wsdl

With this information one can register these services in EdUnify. An example of registering web services with this type of information is available in an on-demand demonstration which can be viewed [here](#). If your organization does not publish WSDL for its web services, you can obtain a copy of the WSDL file and EdUnify can publish the WSDL for your organization.

What if I have RESTful web services not described by WSDL?

If you have RESTful web services, you can still participate. EdUnify supports the registration and annotation of RESTful web service. Instead of a service name and service WSDL, you just need to collect a bit more information. You need a service name, a base URL, endpoint URLs, and a template for invoking each endpoint. For example, one would need the following information to register the College Transfer Course Import Service:

Service Name	Base URL	REST Endpoint URL (s)
College Transfer Course Import	https://services.collegetransfer.net/CourseImportService	<ol style="list-style-type: none"> 1. GET /Authenticate 2. GET /ReceiveCourse 3. GET /Register

Example templates for invoking these endpoints are:

GET /Authenticate

```
[https://services.collegetransfer.net/CourseImportService/Authenticate?callback={callback}&institutionId={institutionId}&password={password}&username={username}]
```

GET /ReceiveCourse

```
[https://services.collegetransfer.net/CourseImportService/ReceiveCourse?c={c}&e={e}&g={g}&n={n}&p={p}&r={r}&s={s}&t={t}&y={y}&u={u}]
```

GET /Register

```
[https://services.collegetransfer.net/CourseImportService/Register?callback={callback}&email={email}&firstName={firstName}&lastName={lastName}&password={password}&username={username}]
```

What if my organization's web services are not public?

If your web services are not public, you can still participate. Just because the services are not public (that is, they require authentication to use or firewall rules only allow authorized users) you can and should still register your services in EdUnify. Registering web services does not grant anyone access to them, it only allows them to find the location of the service, to learn how one might invoke service if one has access, and to learn about any terms, conditions, and agreements they need to have with your to invoke the services. Registering your services also allows other users of the registry to help you annotate your services using standard ontologies to map your services to systems that might use your service. Registering your services in EdUnify helps service providers communicate with their users and potential users of their services, which helps web services achieve their full value potential.

Get Started

To get started, gather a list of the WSDL or REST information for at least one of your organizations services, and then visit <https://www.edunify.pesc.org>. There you will find an on-demand demo that shows you how to setup a free account and register a service. Then register your own services. It just takes a few minutes.

If you have any comments or feedback about your experience with EdUnify, please send them to support@edunify.pesc.org or post them directly on the [PE SC EdUnify Differential Requirements Page](#).