

Software Request for Proposal Guidance

Single Sign-On and Class Rosters

Background

The Newburgh Enlarged City School District cares deeply about the mission critical role of digital learning resources in education. We feel all members of the school community – students, teachers, parents, publishers and platform providers – all benefit from that shared commitment.

As the Newburgh Enlarged City School District rapidly shifts from print to online learning, two significant technical barriers continue to prevent the pervasive and effective use of these new digital resources. Research¹ again and again confirms the basic tenet that first impressions are lasting ones. These twin barriers are particularly vexing for the industry as they create negative first impressions that obstruct crucial initial adoption of online resources. Further problematic about negative first impressions is the tendency for news to travel fast amongst students and teachers.

The two barriers are issues related to **Sign-On** and issues related to **Class Roster Uploads**. These barriers are somewhat interrelated and fortunately for us, they are now avoidable. The industry, working collaboratively, has developed well-adopted open technology standards to address both these barriers. The Newburgh Enlarged City School District supports open technology standards and has created this Request for Proposal Guidance document to ensure our partners understand and adopt select open technology standards to eliminate the challenges associated to Sign-On and Class Roster Uploads.

Barriers

Sign-On

Teachers and students typically interact with five to fifteen different web based resources in a given school year and we believe this number will only grow. Over the course of a typical student's K-12 career the total web resources can be into the hundreds and it's likely every web application will require a sign-on. The aggregate time lost/wasted by students and teachers attempting and failing to remember their username and password is staggering. With each failed attempt a lasting negative impression grows. Resources that were intended to help improve learning outcomes become frustrating experiences that students and teachers look to avoid. Add to that challenges faced by the school technology team responsible for creating, resetting and managing usernames and passwords for a constantly growing set of online applications and the frustration becomes a school system wide challenge.

¹ Computers in Human Behaviour, Saade and Otrakji, "[First impressions last a lifetime: effect of interface type on disorientation and cognitive load](#)", 2007

Journal of the Association for Psychological Science, Willis and Todorov, Princeton, "[First Impressions Making Up Your Mind After a 100ms Exposure to a Face](#)", 2006

Taylor & Francis Online, Lindgaard, Fernandes, Dudek and Brown, "[Attention web designers: You have 50 milliseconds to make a good first impression!](#)", 2011

American Psychological Association, Bar, Neta, and Linz, "[Very First Impressions](#)", 2006

Class Roster Uploads

A class roster is a list of students enrolled in a particular class. Many educational websites need class roster information to better assist the teacher in organizing materials for multiple classes and for helping students have an online experience that is more relevant to their classroom experience. Some websites enable teachers to enter students one-by-one or to upload a class list of some kind. More and more websites enable bulk upload of rosters at the district level. It has become standard practice for district technologists to create many customized extracts from their Student Information System (SIS) and upload them into a myriad of educational websites. This custom extract process, although certainly more efficient than manually typing in class schedules manually, has become overly complicated with unique spreadsheets for every website and too tedious for districts with significant enrollment changes.

Newburgh Believes:

- Improved access to digital learning resources creates opportunities to improve learning outcomes.
- Schools should be free to select the best digital learning resources without sacrificing data interoperability.
- Publishers and platform providers should leverage an unprecedented opportunity to build bridges between their systems using open technology standards.
- Schools, publishers, and platform providers should adhere to common, open technology standards for secure delivery of data.
- School technologists should no longer bear the burden of formatting data to the unique specifications of every publisher and platform provider.
- Initiatives from IMS Global Learning Consortium, developed collaboratively between all stakeholders, represent optimal open technology standards.

Eliminating Barriers

Our District leaders are advocating for open technology standards. Educational publishers and platform providers who adopt open technology standards can help eliminate the barriers. Together with best-in-class industry associations, such as IMS Global Learning Consortium, there are solutions to eliminate these barriers for school districts around the world.

Single Sign-on Requirements

The Newburgh Enlarged City School District is **requiring** support for the following methods of Single Sign-On at no additional cost to the district.

Auto-provisioning: For all systems that do not require roster data, the district is **requiring** users are automatically provisioned on first launch.

Method 1 - LTI Basic Launch Links version 1.1 or higher.

<https://www.imsglobal.org/activity/learning-tools-interoperability>

The principal concept of LTI is to establish a standard way of integrating rich learning applications (often remotely hosted and provided through third-party services) with platforms like learning management systems, portals, or other educational environments. In LTI these learning applications are called Tools (delivered by Tool Providers) and the LMS, or learning platforms, are called Tool Consumers. The basic use case behind the development of the LTI specification is to allow the seamless connection of web-based, externally hosted applications and content, or Tools (from simple communication applications like chat, to domain-specific learning environments for complex subjects like math or science) to platforms that present them to users. In other words, if you have an interactive assessment application or virtual chemistry lab, it can be securely connected to an educational platform in a standard way without having to develop and maintain custom integrations for each platform.

**Please refer to the LTI primer: <http://www.imsglobal.org/lti/primeronLTIconformance.html> for a detailed explanation.*

**Specification Documents: <https://www.imsglobal.org/activity/learning-tools-interoperability>*

Method 2 - ADFS/SAML support

Security Assertion Markup Language (SAML, pronounced *sam-el*^[1]) is an XML-based, openstandard data format for exchanging authentication and authorization data between parties, in particular, between an identity provider and a service provider. SAML is a product of the OASIS Security Services Technical Committee. SAML dates from 2001; the most recent major update of SAML was published in 2005, but protocol enhancements have steadily been added through additional, optional standards.

Rostering Requirements

Vendors have the option of supporting the OneRoster v1.0 csv templates for the current school year. The district is requesting support for IMS Global OneRoster v1.0 REST API by the following school year. Rostering should be provided at no additional cost.



What is OneRoster?

<http://www.imsglobal.org/IMSOOneRoster.pdf>

IMS OneRoster Specification Details

The OneRoster specification has two parts. **Part 1** is a set of roster services that allow rosters to be exchanged between an SIS and a Digital Learning Platform or an SIS and a Publisher Platform or Tool. The roster services are defined as a RESTful API.

The initial set of services that have been defined address:

- Organizations
- Courses
- Classes
- Term and Grading period
- User information (Teacher, Student etc.)
- Grade information
- Demographics

Part 2 is a set of CSV definitions that can be used to standardize the exchange of roster information for those implementations that do not currently implement a services model.

The initial set of CSV definitions are for:

- ORGS.CSV
- USERS.CSV
- COURSES.CSV
- CLASSES.CSV
- TERMS.CSV
- GRADINGPERIODS.CSV
- DEMOGRAPHICS.CSV (optional)

The OneRoster v.1 specification can be found here: <http://www.imsglobal.org/lis/>

VENDORS PLEASE FILL ALL FIELDS ON PAGES 5-7 PRIOR TO SUBMITTING THESE FORMS TO THE DISTRICT.

Vendor Contact Information	
Vendor Name	
Product Name	
Vendor Representative Name	
Vendor Representative Email	
Vendor Representative Phone	

Integration Checklist

#	Requirement	Yes/No	Comments
1	Does your system require roster data? If not, go to section 2.		
1.a	Do you currently support the OneRoster REST API?		
1.b	If no to 1.a, will you support OneRoster REST API by Fall 2017?		
1.c	If you do not support the OneRoster REST API, will you accept OneRoster csv files to an SFTP site where we can automatically upload these files?		
2	Our district requires single sign-on for all users, do you have any methods for single sign-on?		
2.1	Do you support ADFS or SAML?		
2.2	Do you support LTI v1.1 basic launch links?		
3	Are you familiar with IMS Global?		
3.1	Are you a member of IMS Global?		
3.2	Is your solution certified by IMS Global? If so, please include link to certification.		

System Requirements

System REQUIREMENTS	Meets	Does Not Meet	VENDOR RESPONSE Please describe
1. Content must be fully accessible through a web browser, and available 24/7 outside of regularly-scheduled maintenance and/or update windows			
2. Authentication of Users is done through the district LMS or Portal			
3. Content Provider must conform to and deliver access to content via IMS Global Learning Tools Interoperability v1.1 (or higher) standard.			
4. Content Provider must provide Common Cartridge v1.3 (or higher) export in the format for provisioning of LTI links to enable searching of learning objects.			
5. Metadata provided in Common Cartridge must map to the following user types: School Admin, Principal, Curriculum Admin, Admin, Teacher, Student, and Parent, with rights customizable by user type.			
6. Content must be accessible via mobile device browsers including iOS and Android.			

Technical Requirements

In addition to the functional requirements, the vendor’s solution shall provide users with a wide variety of readily available and user-friendly interfaces to access the system, as well as provide an environment that allows for reliable and timely use of the content. In addition, the vendor’s solution will integrate with third-party materials and software. Conforming to IMS standards the vendor must maintain the highest levels of security in order to preserve and protect the confidentiality of data. The vendor is expected to employ leading edge and proven security solutions and protocols in order to fulfill this goal.

These are custom parameters with specified names to represent a best practice when launching content using the IMS Global Learning Tools Interoperability standard

System and Integration/Extensibility REQUIREMENTS	Meets	Does Not Meet	VENDOR RESPONSE – Please describe
1. Support Windows, Chrome, and Macintosh operating systems. Vendor will specify which versions of these operating systems the vendor’s solution supports.			
2. Support scalable enterprise configurations such as load balancing and clustering of servers and downloading of data based and content based delivery for school district with one to one or BYOD programs.			
3. Support popular web browsers (Internet Explorer, Firefox, Safari, Chrome). Vendor will specify which versions of these browsers the vendor’s solution supports.			

Notes:

Several references are made to the LOR (Learning Object Repository), LMS (Learning Management System), and Portal. This verbiage may differ from district to district, but they all refer to the district learning platform that is the primary vehicle for aggregating and presenting instructional resources. References are made to LDAP but the intent is to integrate into the district directory services which for Orange County requires ADFS or LTI. Districts can no longer dedicate resources to customize export files that conform to individual publisher schema. The ability to use directory services prevents student and teachers from having multiple logins for multiple providers, allowing for the seamless access to resources and maximizing instructional time.