

Comprehensive Learner Record: Tools to Support a CLR Initiative

IMS Roundtable

September 28, 2020



Thank you to our IMS Digital Credentials Initiative Sponsors

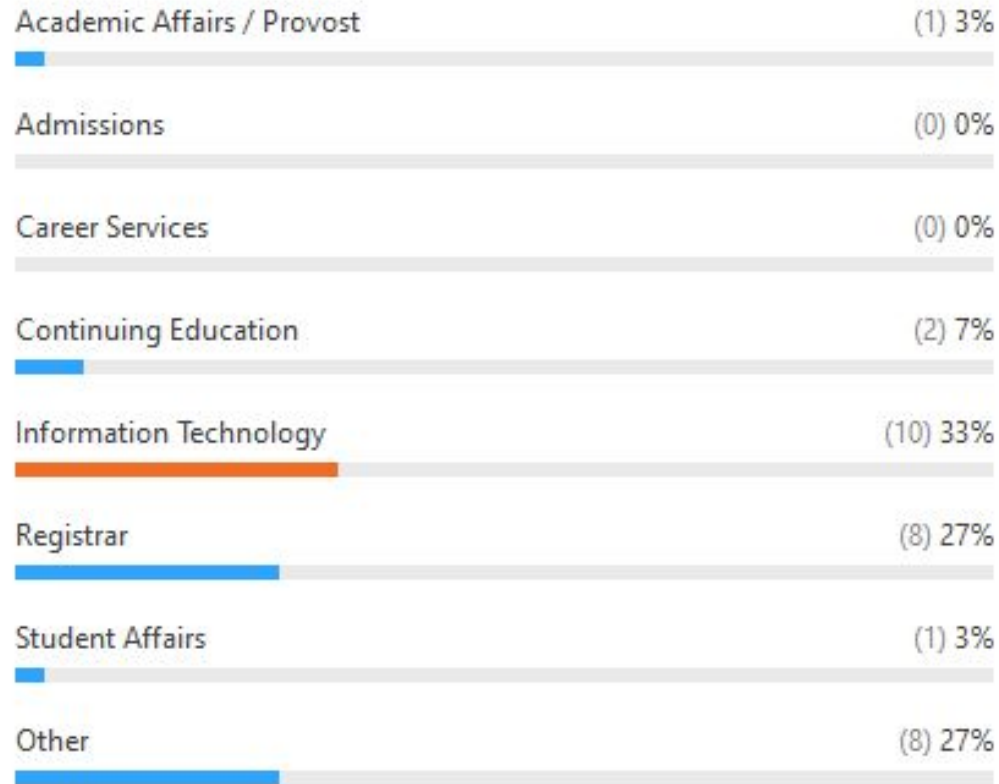


IMS CLR Roundtable: Learn & Lead

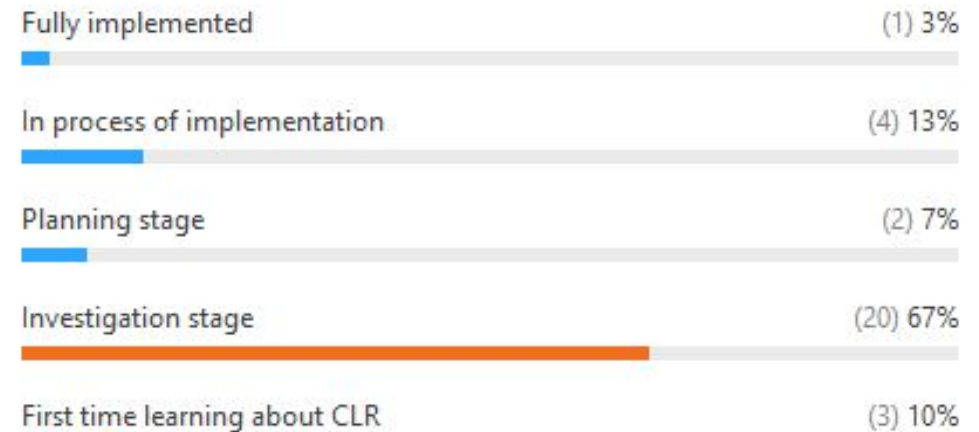
- Monthly open forum for institutional leaders
- Focus on strategy, design, and implementation
- Building a community of support
- All events will be recorded and posted to our website
<https://www.imsglobal.org/event/ims-clr-roundtable-open-public>

Attendee Poll

1. What is your role?



2. What stage are you at in your CLR initiative?



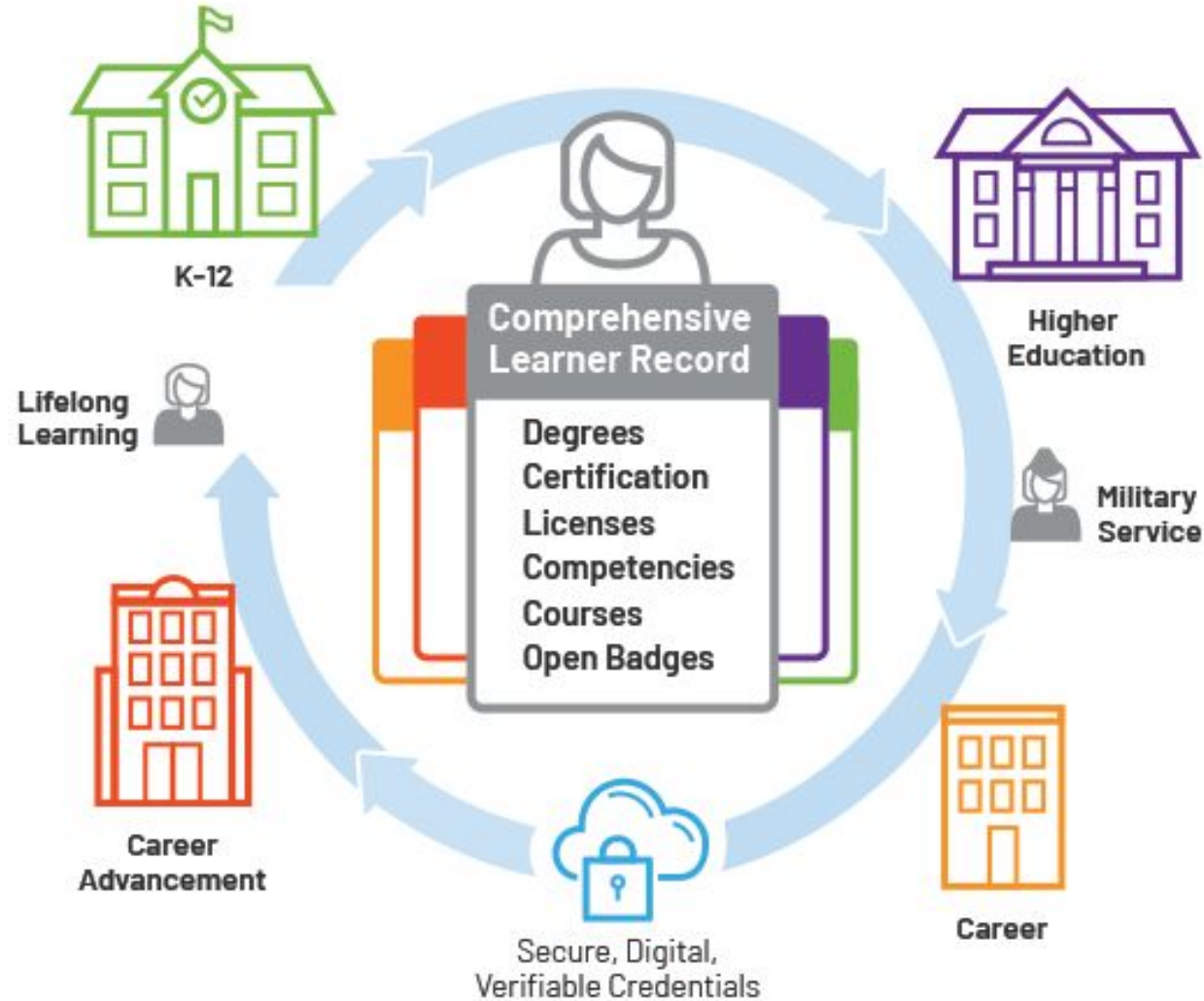
3. Do you have a platform for generating your CLR?



Speakers

- Clint McElroy, Analyst/Programmer, Indiana University
- Jeff Bohrer, Technical Program Manager, IMS Global Learning Consortium

Digital Credentials Ecosystem



Interoperability of data is possible when all parts of the ecosystem use the CLR 1.0 standard.

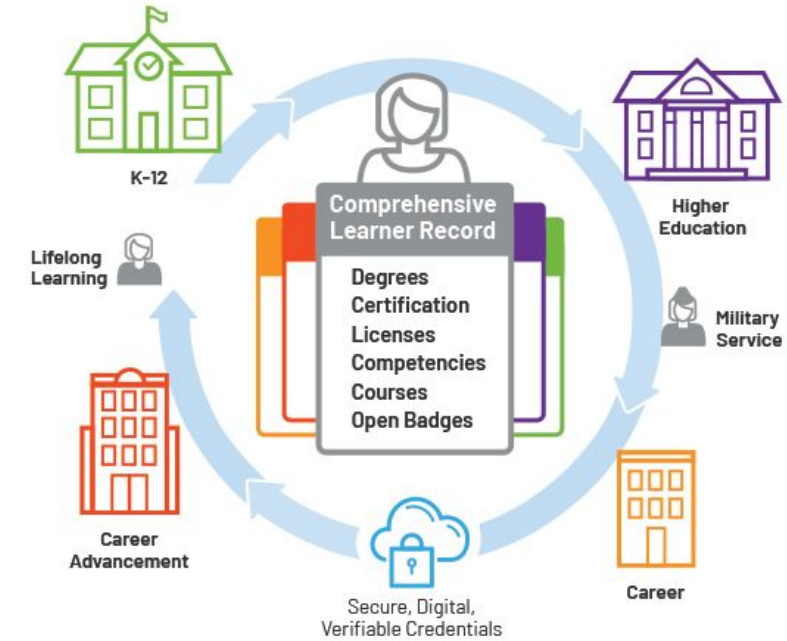
imglobal.org/clr



Comprehensive Learner Records

What makes CLR unique?

- **Official record** of learning achievements and skills through all stages of education and work
- Captures achievements and competencies in **context of a learning experience**
- **Transferable** among organizations as an immutable and complete record
- Privately **shareable** by the learner or the employee in whole or parts and electronically **verifiable** by the recipient
- Can contain badges AND non-badged achievements

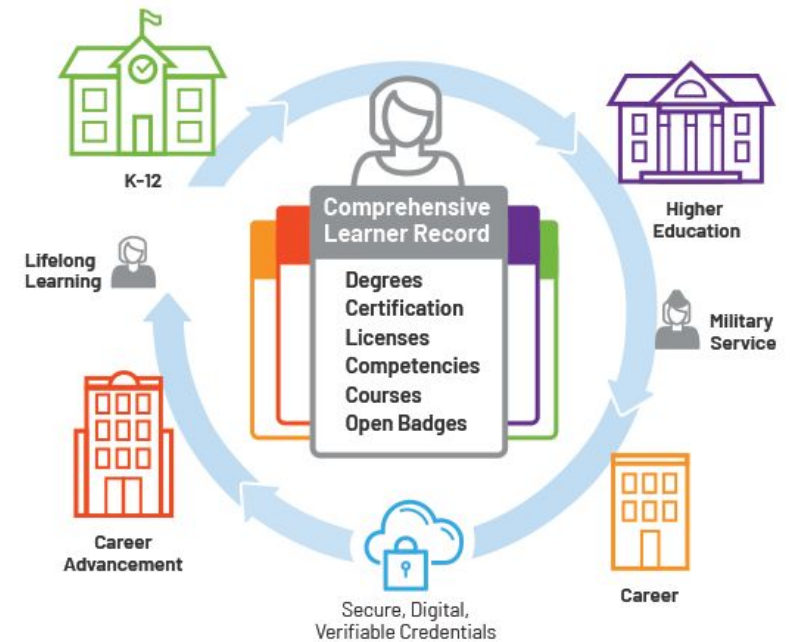


CLR Standard

Adopting certified CLR tools equips your learners with verifiable and interoperable records.

- ✓ CLR 1.0 is available now.
- ✓ CLR 1.0 defines a **data model** and **REST API**
- ✓ Early adopter educational institutions and suppliers are currently implementing CLR 1.0.

More details at imglobal.org/clar



AACRAO Guidance

“Postsecondary institutions of all types and at all levels that are currently using any form of micro-credentials, digital diplomas and certificates, or digital student records or other types should work to migrate that information into the IMS CLR standard.

New records that are being developed should be written to this standard. Commercial software suppliers should adopt the standard as soon as possible to enable learner-controllable records in the IMS open standard.”



The screenshot shows the AACRAO website with a green header. The main navigation includes 'WHO WE ARE', 'EVENTS & TRAINING', 'RESOURCES', and 'RESEARCH & PUBLICATIONS'. The article title is 'AACRAO Issues Guidance for College Registrars and Admissions to Adopt IMS Global Learning Consortium Digital Standard for Learner Records'. The author is 'DR. TOM GREEN' and the date is 'MAY 5, 2020'. There are social media share icons for Facebook, Twitter, Email, and LinkedIn. Below the article title, there are four tabs: 'AACRAO NEWS', 'AACRAO PRESS RELEASES', 'COMPREHENSIVE RECORD', and 'COMPREHENSIVE LEARNER RECORD'. The article text begins with 'Washington, D. C. - The American Association of Collegiate Registrars and Admissions Officers (AACRAO) has issued guidance to its members to adopt the IMS Global Learning Consortium (IMS Global/IMS) standard for Comprehensive Learner Record projects and products. Since 2015, a growing number of colleges and universities have developed and implemented new forms of digital student records, Comprehensive Learner Records (CLRs). Developed largely as models or institutional innovations, to date, these CLRs are unique to each creator. While innovative, differences in technical format reduce the usefulness of these records when students seek to transmit their contents to employers or other higher'.

https://bit.ly/AACRAO_Guidance



Early Adopters of CLR 1.0

- Indiana University
- Johns Hopkins University
- Univ. of Maryland Baltimore County
- Western Governors University
- Broward County Public Schools
- Edina Public Schools
- North Dakota DPI
- AEFIS
- Core Learning Exchange
- ELocker
- Greenlight Credentials
- iDatafy / SmartResume
- Paradigm
- Peridot / LearnersEDGE
- Public Consulting Group
- Teacher Wallet by RANDA





First-Year Hoosier Experience Achievement Award

What is the Hoosier Experience?

- A program to enhance a student's first-year experience by attending campus events
- Events highlight the areas of **Academics & Careers**, **Arts & Humanities**, **Equity & Inclusion**, and **Community & Engagement**
- Earn the award by attending **6** or more events



Why did we choose the CLR standard?

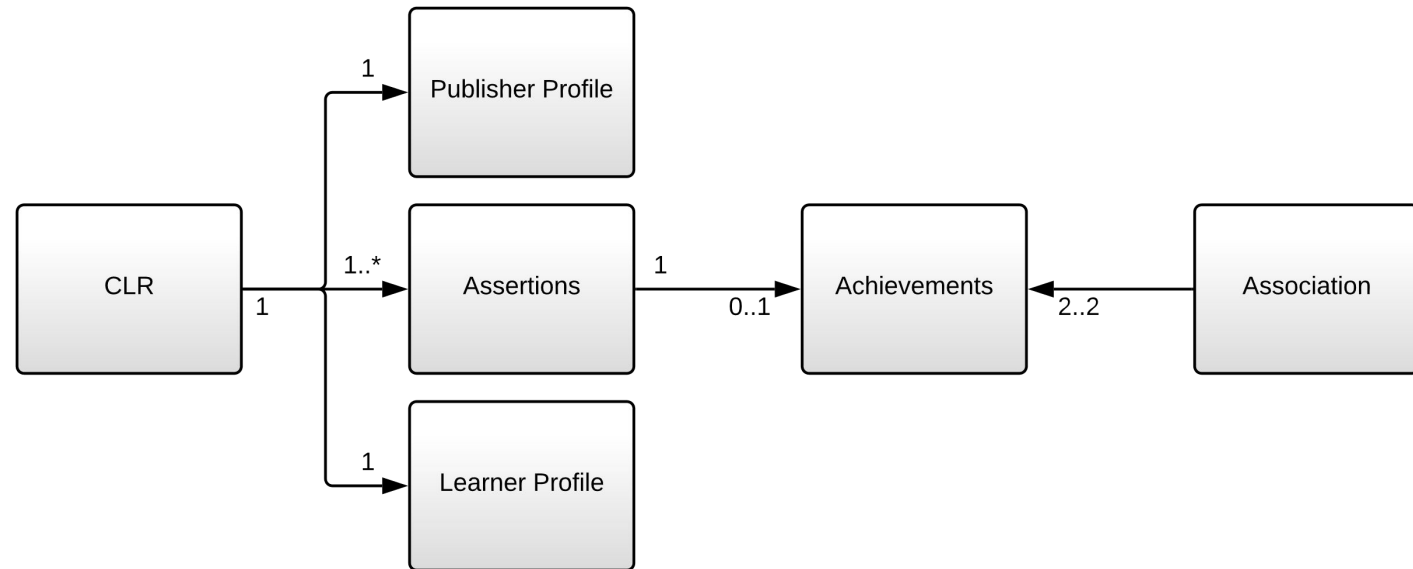
- Provided a way to transmit additional information
- Ideal CLR pilot project
- Our vendor was willing to learn with us
- Scalable to future projects
- Portable

```
JSON Raw Data Headers
Save Copy Collapse All Expand All Filter JSON
@context: "https://clr.oem.indiana.edu/cclr/schema.json"
id: "urn:uuid:63b4a04c-2d4d-42be-83c3-fd2c53a929f8"
@type: "CLR"
publisher:
  id: "urn:uuid:805877d8-3110-4745-8283-aa90dfac115f"
  name: "Office of the Registrar Indiana University Bloomington"
  url: "https://registrar.indiana.edu/"
  telephone: "+18128556500"
  address:
    addressLocality: "Bloomington"
    addressRegion: "IN"
    postalCode: "47405"
    streetAddress: "408 N. Union St."
learner:
  id: "urn:uuid:6941e96f-e4fc-468b-8b12-ddcdd2b33e55"
  name: "Student, Allison Fake "
  email: "afstudent@indiana.edu"
assertions:
  0:
    id: "urn:uuid:cdbc8423-f010-4a28-84cb-dad933798db8"
    @type: "Assertion"
    recipient:
      id: "urn:uuid:6941e96f-e4fc-468b-8b12-ddcdd2b33e55"
      @type: "email"
      hashed: "false"
      salt: "N/A"
      issuedOn: "2020-03-12T13:12:45+0000"
    achievement:
      id: "urn:uuid:c58c9cc1-4782-4e08-a8f1-8fd554bdf23"
      @type: "Achievement"
      typeLabel: "Award"
      name: "FYE Hoosier Experience"
      description: "Awarded to a student who attends 6 or more First Year Experience events."
      issuer:
        id: "urn:uuid:737c9937-408a-443e-b891-74cc12ea381c"
        name: "Office of Enrollment Management"
        url: "https://oemv.oem.indiana.edu/"
        telephone: "+18128558908"
        address:
          addressLocality: "Bloomington"
          addressRegion: "IN"
          postalCode: "47405"
          streetAddress: "408 N. Union St."
    results:
      0:
        id: "urn:uuid:dffee0ec-5633-4b40-b0ad-dcc7d17509de"
        @type: "Result"
        value: "Awarded"
```



How did we get started?

- Identified and kept what worked
- Establish communication channels early in the project
- Used the CLR specifications as a blueprint for data structures



Where are we now?

- Went live in March
- Scalable back-end data structures in place
- More comprehensive understanding of the CLR standard



Credential Details

CeDiD:	19FD-D80S-A9TU
Name:	Allison Fake Student
Conferral Date:	11/07/2019
Credential:	First-Year Hoosier Experience Achievement Award



To validate the authenticity of this credential, visit the institution's website and enter the CeDiD above.



Educational Experience

Publisher
Office of the Registrar Indiana University Bloomington
408 N. Union St.
Bloomington IN 47405
+18128556500
<https://registrar.indiana.edu>

Learner
Student: Allison Fake
[Export json](#)

Award

+ FYE Hoosier Experience

Event

+ Student Involvement Fair

+ Culture Fest

+ Winter Involvement Fair

+ SICE Career Fair

+ University Division Majors, Minors, and More Fair

+ Sex, Drugs, and Rock'n'Roll



What's next?

- Update the JSON-LD payload to include verification
- Achieve compliance with the REST/JSON Binding standards
- Identify new projects that will benefit from the CLR standard



Audience Question & Answer



CLR Resources

- ✓ Technical documentation
- ✓ Prototype applications
- ✓ Procurement guidance for institutions

CLR Technical Documentation

The screenshot shows the IMS Global Learning Consortium website. The header includes the logo and navigation links: INITIATIVES, DEVELOPERS, CERTIFIED PRODUCTS, LEARNING IMPACT, LEADERSHIP, and a search icon. The main heading is "Comprehensive Learner Record".

Summary

The Comprehensive Learner Record (CLR) is the new generation of secure and verifiable learning records supporting all nature of learning recognition and achievements including courses, competencies and skills, and employer-based learning achievements.

Recommended by AACRAO, the American Association of Collegiate Registrars and Admissions Officers, the IMS Global CLR is designed to support traditional academic programs, co-curricular and competency-based education as well as employer-based learning and development - in any domain where it's important to capture and communicate a learner's and worker's achievements in verifiable, digital form. Designed to be used, curated and controlled by the learner, the IMS Global CLR is a modern and web-friendly interoperable learner record structured for easy understanding yet flexible enough to support a wide range of use cases to meet the needs of learners and workers, registrars and employers.

Transformative in its potential across education and workforce the CLR is the product of five years' efforts by IMS, its members and partners in the community. CLR leverages the **Open Badges** standard and is compatible with the W3C Verifiable Credentials and the **Credential Engine** Registry (see **quickstart Guidance**). The CLR has onboard verifiability but for an added degree of permanence implementers may choose to authenticate ownership with a blockchain solution. IMS Global's Comprehensive Learner Record is a verifiable, secure learner record for the 21st century.

Equitable
Enabling economic and social mobility

Transparent
Based on shared open standards

Relevant
Carries meaning in education and employment

Private

Verifiable
Digitally confirmed to be active and authentic

Interoperable
Machine readable, exchangeable, actionable

Portable

News

- 16 Sep 2020 New Network to Accelerate Skills-Based Education and Hiring
- 26 Aug 2020 IMS CLR Roundtable: The Impact of CLR on Students (Recorded on 24 August 2020)
- 28 Jul 2020 IMS CLR Roundtable: Models for How to Strategize Your CLR Readiness (Recorded on 27 July 2020)

Specifications [view all...]

- 05 Feb 2020 Comprehensive Learner Record Specification Version 1.0
- 26 Aug 2019 Comprehensive Learner Record Implementation Guide 1.0 IMS (Candidate Final)
- 26 Aug 2019 IMS Comprehensive Learner Record Service Information Model Version 1.0 (Candidate Final)

Product Roadmap [view all...]

- 20 Aug 2020 IMS Major Initiatives Roadmap

imsglobal.org/clar



CLR Technical Documentation

The screenshot shows the IMS Global Learning Consortium website. The header includes the logo and navigation links: INITIATIVES, DEVELOPERS, CERTIFIED PRODUCTS, LEARNING IMPACT, LEADERSHIP. The main content area is titled "Comprehensive Learner Record" and features a "Summary" section with a paragraph describing the CLR as a new generation of secure and verifiable learning records. Below the summary is a "News" section with several articles dated from 2019 to 2020. A "Specifications" section is also visible, with a "[view all...]" link. At the bottom, there is a "Product Roadmap" section with a "[view all...]" link. A central graphic highlights the CLR's characteristics: Equitable (Enabling economic and social mobility), Transparent (Based on shared open standards), Relevant (Carries meaning in education and employment), Private, Verifiable (Digitally confirmed to be active and authentic), Interoperable (Machine readable, exchangeable, actionable), and Portable.

Specification documents

- Data/information model
- REST/service model

Implementation Guide

Conformance Certification Guide

OpenAPI (Swagger UI)

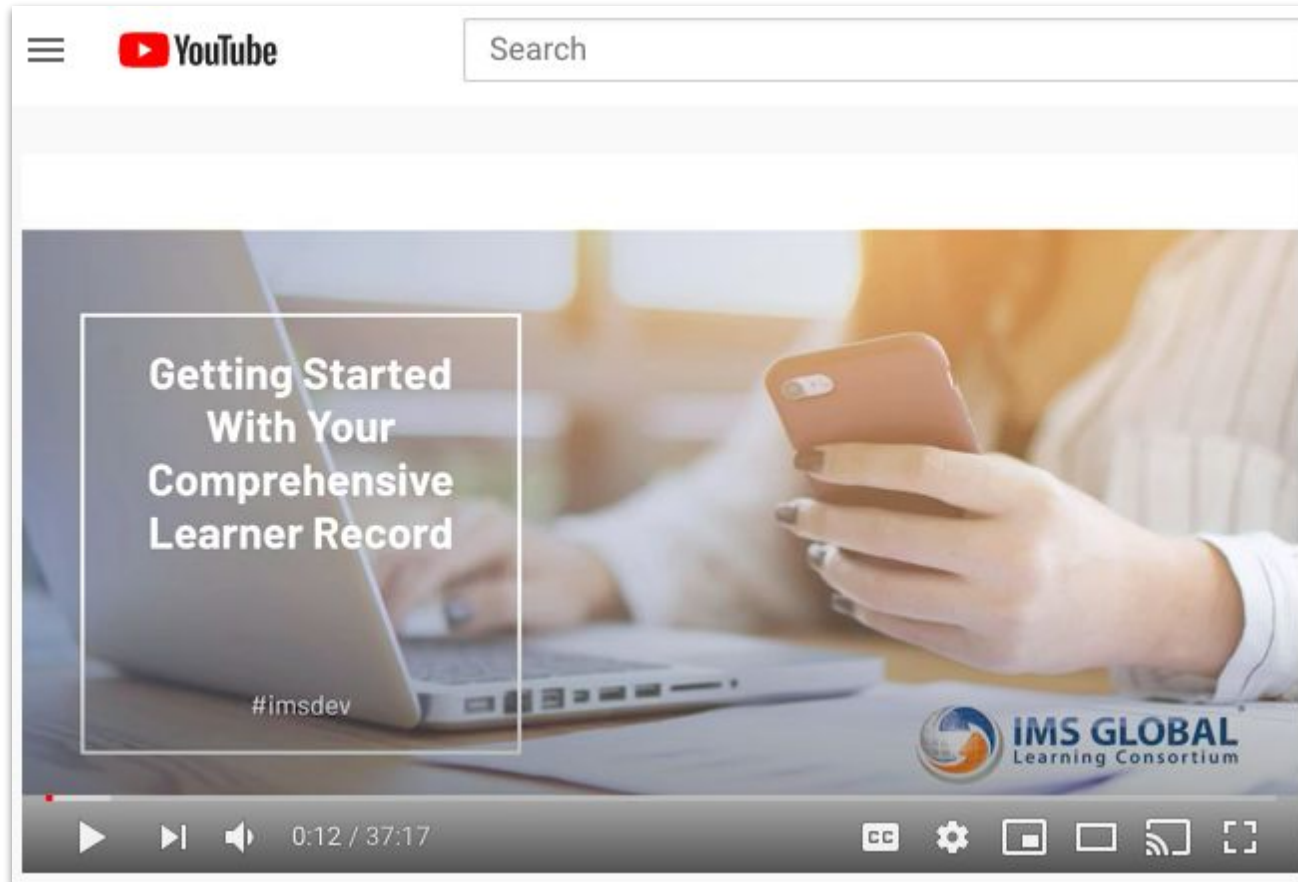
JSON Schema

JSON-LD Context

imsglobal.org/clr



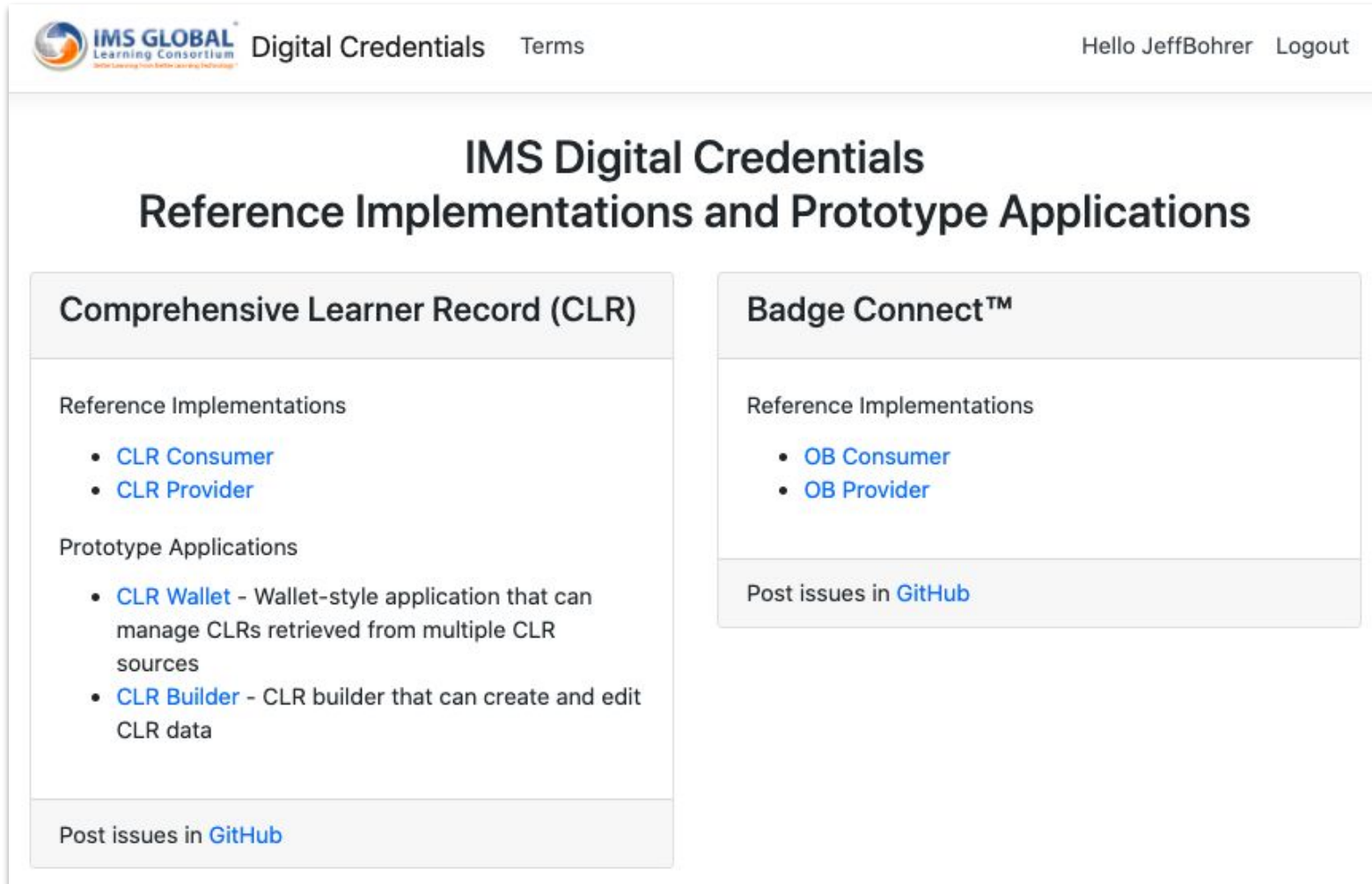
CLR Technical Documentation



IMS Developer Webinar: CLR
How to implement CLR standard
37 minutes
bit.ly/clar-vid

imglobal.org/clar

CLR Prototype & Reference Applications



The screenshot shows the IMS Digital Credentials website interface. At the top left is the IMS GLOBAL Learning Consortium logo with the tagline "Better Learning. Better Learning. Technology." and the text "Digital Credentials" and "Terms". At the top right, it says "Hello JeffBohrer" and "Logout". The main heading is "IMS Digital Credentials Reference Implementations and Prototype Applications". There are two main columns. The left column is titled "Comprehensive Learner Record (CLR)" and contains sections for "Reference Implementations" (with links for "CLR Consumer" and "CLR Provider") and "Prototype Applications" (with links for "CLR Wallet" and "CLR Builder"). The right column is titled "Badge Connect™" and contains sections for "Reference Implementations" (with links for "OB Consumer" and "OB Provider") and a link to "Post issues in GitHub". Both columns have a "Post issues in GitHub" link at the bottom.

dc.imsglobal.org



CLR Prototype & Reference Applications

Comprehensive Learner Record (CLR)

Reference Implementations

- [CLR Consumer](#)
- [CLR Provider](#)

Prototype Applications

- [CLR Wallet](#) - Wallet-style application that can manage CLR data retrieved from multiple CLR sources
- [CLR Builder](#) - CLR builder that can create and edit CLR data

Post issues in [GitHub](#)

dc.imsmsglobal.org



CLR Prototype & Reference Applications

Access Request for dc.imsglobal.org

Thank you for your interest in the Comprehensive Learner Record. IMS Global is providing access to CLR prototype applications and reference implementations to select organizations. To request access, please submit this form, and IMS will follow-up with further instructions.

*** Required**

Name *

Your answer _____

Title *

Your answer _____

dc.imsglobal.org requires an IMS member account

**Attendees of CLR Roundtables may request access:

bit.ly/IMS-access-request

CLR Prototype & Reference Applications

The screenshot shows the 'CLR Builder' web application interface. At the top, there is a navigation bar with the IMS GLOBAL Learning Consortium logo, the text 'CLR Builder', and links for 'Terms', 'Release Notes', and 'Settings'. On the right side of the navigation bar, it says 'Hello JeffBohrer!' and has links for 'Backup/Restore' and 'Logout'. The main content area is titled 'CLR Builder' and includes the subtitle 'Assemble CLRs from Profiles, Achievements and Assertions.' Below this, there are seven teal-colored cards arranged in a grid. The top row contains four cards: 'Profiles', 'Achievements', 'Assertions', and 'CLRs'. Each of these cards has a 'Manage' button at the bottom. The bottom two rows contain three cards each: 'Alignments', 'Associations', 'Endorsements', 'Evidence' in the first row, and 'Result Descriptions', 'Rubric Criterion Levels', and 'Results' in the second row. Each of these bottom six cards also has a 'Manage' button at the bottom. All cards display a large '0' in the center, indicating zero items.

IMS GLOBAL Learning Consortium CLR Builder Terms Release Notes Settings Hello JeffBohrer! Backup/Restore Logout

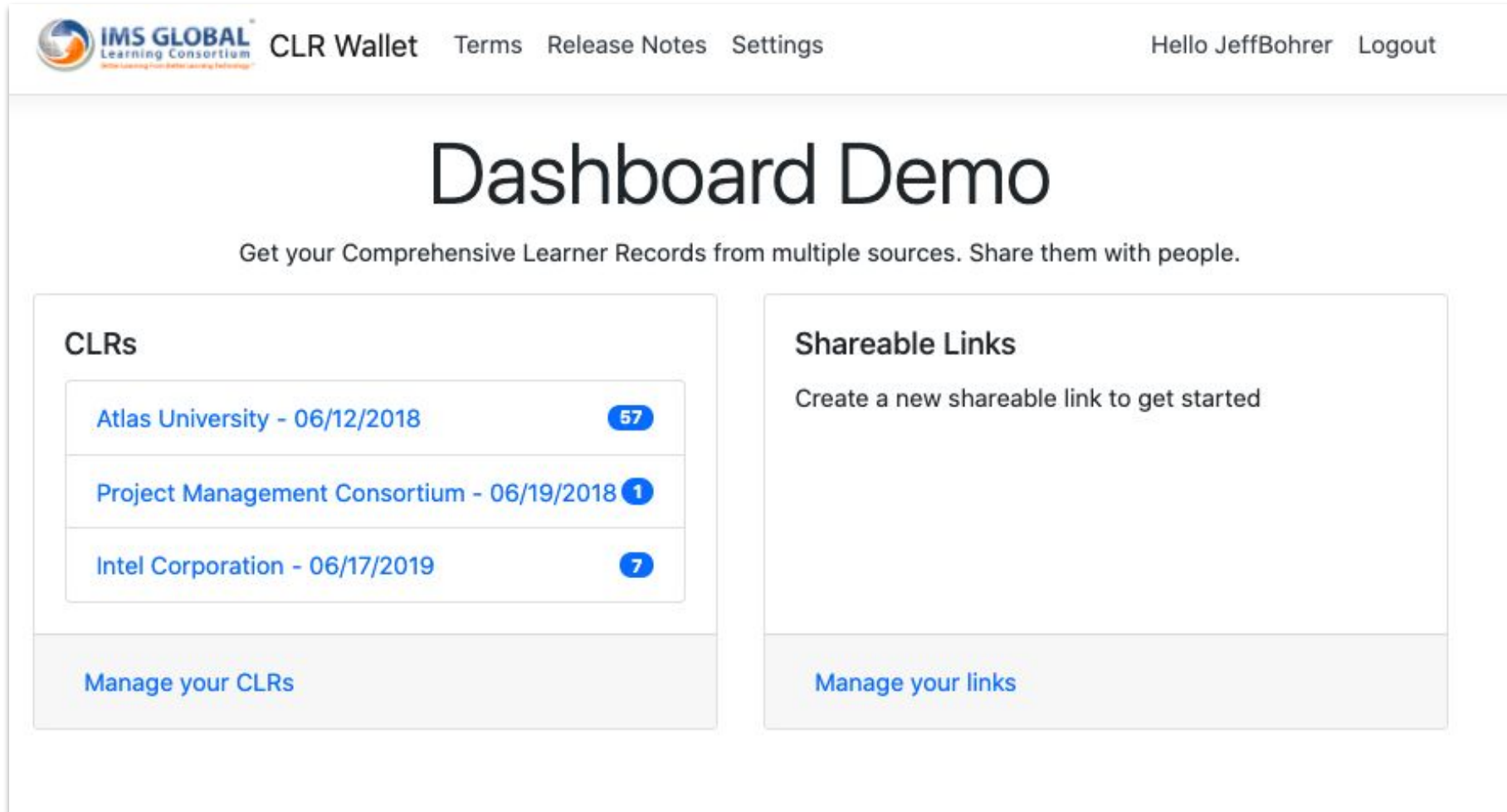
CLR Builder

Assemble CLRs from Profiles, Achievements and Assertions.

- Profiles**
No profiles yet. Click **Manage** to create a profile.
Manage
- Achievements**
No achievements yet. Click **Manage** to create an achievement.
Manage
- Assertions**
No assertions yet. Click **Manage** to create an assertion.
Manage
- CLRs**
No CLRs yet. Click **Manage** to create or import a CLR.
Manage
- Alignments**
0
Manage
- Associations**
0
Manage
- Endorsements**
0
Manage
- Evidence**
0
Manage
- Result Descriptions**
0
Manage
- Rubric Criterion Levels**
0
Manage
- Results**
0
Manage



CLR Prototype & Reference Applications



The screenshot shows the CLR Wallet dashboard. At the top left is the IMS GLOBAL Learning Consortium logo. To its right are links for 'CLR Wallet', 'Terms', 'Release Notes', and 'Settings'. On the top right, it says 'Hello JeffBohrer' and 'Logout'. The main heading is 'Dashboard Demo'. Below this is a sub-heading: 'Get your Comprehensive Learner Records from multiple sources. Share them with people.' There are two main sections: 'CLRs' and 'Shareable Links'. The 'CLRs' section contains a list of three items: 'Atlas University - 06/12/2018' with a badge '57', 'Project Management Consortium - 06/19/2018' with a badge '1', and 'Intel Corporation - 06/17/2019' with a badge '7'. Below the list is a button 'Manage your CLRs'. The 'Shareable Links' section contains the text 'Create a new shareable link to get started' and a button 'Manage your links'.

IMS GLOBAL Learning Consortium CLR Wallet Terms Release Notes Settings Hello JeffBohrer Logout

Dashboard Demo

Get your Comprehensive Learner Records from multiple sources. Share them with people.

CLRs

Atlas University - 06/12/2018	57
Project Management Consortium - 06/19/2018	1
Intel Corporation - 06/17/2019	7

Manage your CLRs


Shareable Links

Create a new shareable link to get started

Manage your links



CLR Prototype & Reference Applications

 CLR Wallet [Terms](#) [Release Notes](#) [Settings](#) Hello JeffBohrer [Logout](#)

A Comprehensive Learner Record (CLR) is a record of your curricular and non-curricular learning achievements. Each CLR comes from a single publisher (such as your school) and contains one or more of your achievements.

CLR

Id	https://www.atlas.edu/urn/clr/818727	Verify	Signed ⓘ
Issued	06/12/2018 19:00:00		
Name	Project Management Introductory Certificate		

Learner

Id	https://www.atlas.edu/urn/student/818727
Name	Alice Smith
Email	AliceSmith@email.com
URL	https://www.atlas.edu/urn/student/818727
SourcedId	818727

Publisher

Id	https://www.atlas.edu/#organization
Name	Atlas University
Email	demo@atlas.edu
URL	https://www.atlas.edu
Address	1429 Walnut Street, 10th Floor Portland,OR 97229
Phone	+1 877-674-3122

Assertions

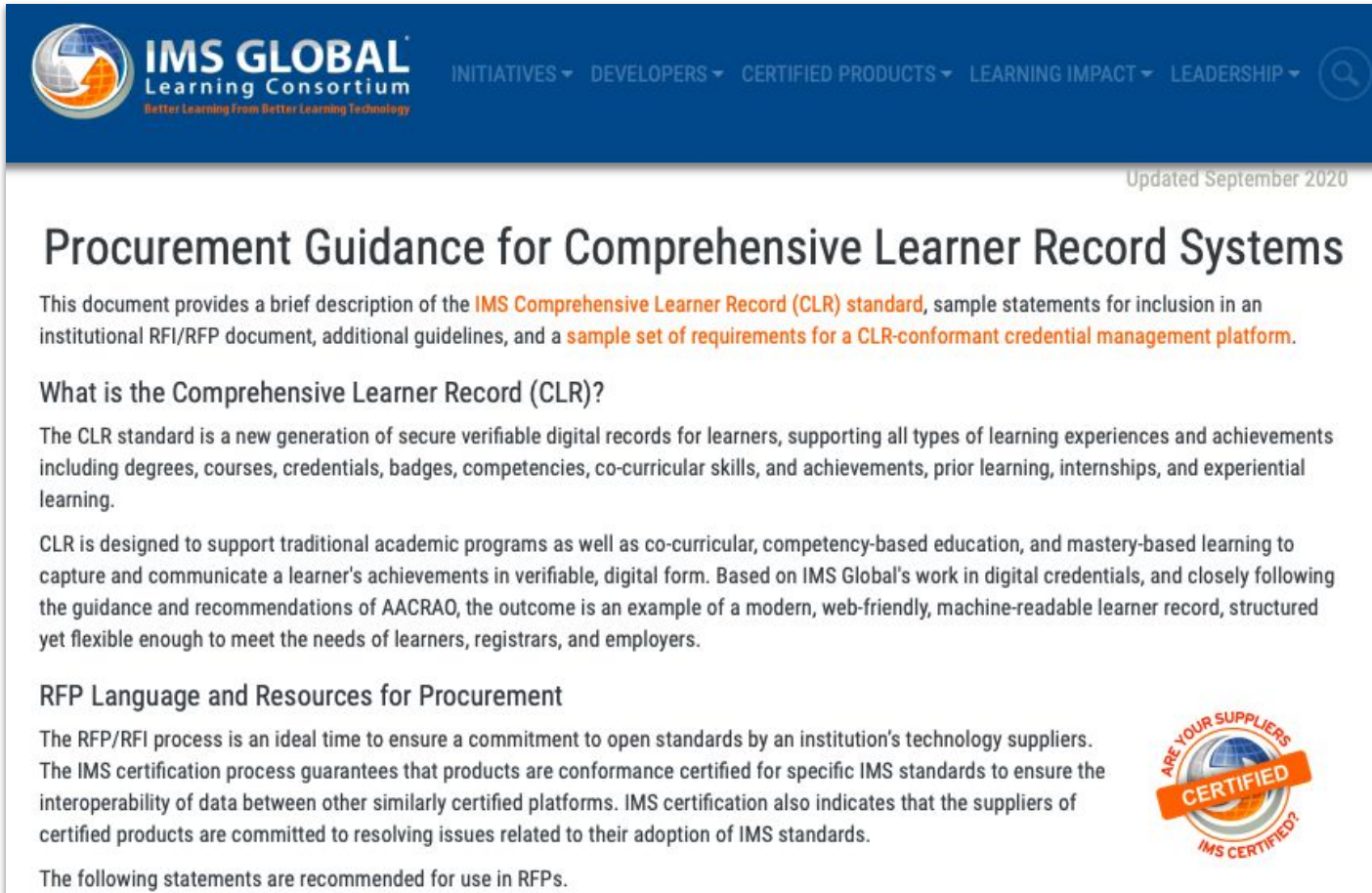
Project Management Introductory Certificate

[Back to Your CLR's](#)



CLR Procurement Guidance

imglobal.org/clr/rfp/resource



The screenshot shows the IMS Global Learning Consortium website. The header includes the logo and navigation menu: INITIATIVES, DEVELOPERS, CERTIFIED PRODUCTS, LEARNING IMPACT, LEADERSHIP, and a search icon. The main content area is titled "Procurement Guidance for Comprehensive Learner Record Systems" and is dated "Updated September 2020". The text describes the IMS Comprehensive Learner Record (CLR) standard, provides sample statements for inclusion in an institutional RFI/RFP document, and includes a section on "RFP Language and Resources for Procurement". A circular seal with the text "ARE YOUR SUPPLIERS CERTIFIED? IMS CERTIFIED?" is visible in the bottom right corner of the document preview.

IMS GLOBAL
Learning Consortium
Better Learning From Better Learning Technology

INITIATIVES ▾ DEVELOPERS ▾ CERTIFIED PRODUCTS ▾ LEARNING IMPACT ▾ LEADERSHIP ▾

Updated September 2020

Procurement Guidance for Comprehensive Learner Record Systems

This document provides a brief description of the **IMS Comprehensive Learner Record (CLR) standard**, sample statements for inclusion in an institutional RFI/RFP document, additional guidelines, and a **sample set of requirements for a CLR-conformant credential management platform**.

What is the Comprehensive Learner Record (CLR)?


The CLR standard is a new generation of secure verifiable digital records for learners, supporting all types of learning experiences and achievements including degrees, courses, credentials, badges, competencies, co-curricular skills, and achievements, prior learning, internships, and experiential learning.

CLR is designed to support traditional academic programs as well as co-curricular, competency-based education, and mastery-based learning to capture and communicate a learner's achievements in verifiable, digital form. Based on IMS Global's work in digital credentials, and closely following the guidance and recommendations of AACRAO, the outcome is an example of a modern, web-friendly, machine-readable learner record, structured yet flexible enough to meet the needs of learners, registrars, and employers.

RFP Language and Resources for Procurement

The RFP/RFI process is an ideal time to ensure a commitment to open standards by an institution's technology suppliers. The IMS certification process guarantees that products are conformance certified for specific IMS standards to ensure the interoperability of data between other similarly certified platforms. IMS certification also indicates that the suppliers of certified products are committed to resolving issues related to their adoption of IMS standards.

The following statements are recommended for use in RFPs.



CLR Procurement Guidance

SAMPLE RFP WITH REQUIREMENTS

Credential Management Platform for Comprehensive Learner Records

Request for Proposal Minimal Requirements

[Education provider] seeks to recognize and record its learners' knowledge, skills, and abilities (KSA's) using interoperable and verifiable digital credentials that adhere to an open interoperable standard, the Comprehensive Learner Record (CLR) published by IMS Global Learning Consortium.

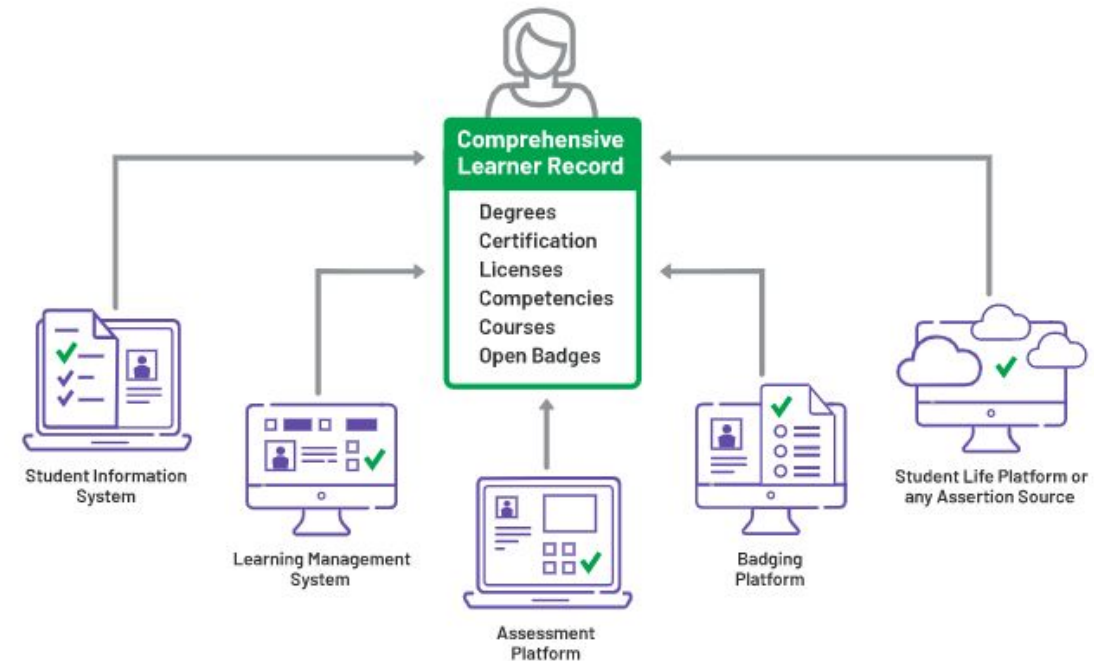
The education provider will be referred to in this document as the record publisher ("Publisher"). The CLR Publisher seeks to license software in the form of a Credential Management Platform ("Platform") to create and manage its comprehensive learner records on behalf of its learners.

The Platform will serve as a central hub for the Publisher's digital credentials, collecting achievement assertions from source systems, organizing the assertions into a CLR and publishing the standard format CLR record so each achievement is verifiable, manageable, and shareable online per the CLR standard implementation requirements.

Access to the CLR will be provided via mobile application ("Wallet") for the learner to view, control, and securely share some or all of their achievements with others, such as employers, other education providers, and social media.

The Platform must be capable of importing and/or creating, hosting, managing, curating, and sharing and exporting CLR records in whole or in part under the learner's control. The Platform will be integrated with the Publisher's administrative data systems via published open integration standards. The Publisher may choose to make the Platform available to the learner after their enrollment or employment as applicable.

imglobal.org/clarfp/resource



IMS CLR Roundtable: Learn & Lead

- Join us next time
 - How can CLR contribute to diversity and equity goals?
 - Date: November 2, 2020 at 11:30 ET
 - <https://www.imsglobal.org/event/ims-clr-roundtable-open-public>
- Feedback, Suggestions, Questions
 - <https://forms.gle/bR4Soe4ReYy21FF4A>

