

IEEE ILR Standard Recommended Practices

Report on 2021 and Plan for 2022

Background

1. **The Institute of Electrical and Electronics Engineers (IEEE)** traces its founding to 1884 and the American Institute of Electrical Engineers. It was formed in 1963 from the amalgamation of the American Institute of Electrical Engineers and the Institute of Radio Engineers. As of 2018, it is the world's largest association of technical professionals with more than 423,000 members in over 160 countries around the world. Its objectives are the educational and technical advancement of electrical and electronic engineering, telecommunications, computer engineering and similar disciplines.
2. **The IEEE Standards Association (IEEE SA)** is an operating unit within IEEE that develops global standards in a broad range of industries, including: power and energy, artificial intelligence systems, internet of things, consumer technology and consumer electronics, biomedical and health care, learning technology, information technology and robotics, telecommunication and home automation, automotive, transportation, home automation, nanotechnology, information assurance, and emerging technologies.
3. **The IEEE SA Learning Technology Standards Council (LTSC)** is an open collaborative to document and publish guides, recommended prved working group with authorization from IEEE SA to work with the LTSC to gather, curate, set in context, and share standard recommended practices for Learner and Employment Records (LER).
4. ILR was created on May 14, 2020, when IEEE approved a project approval request (PAR) for P1484.2
5. On February 11, 2021, a motion passed unanimously to approve a draft framework that organizes the ecosystem into five components
6. Mar 2, 2023 the WG approved the draft. The core team worked to get the approved draft into IEEE template with macros and worked with IEEE SA Open to move the annexes into an editable repository.
7. Aug 23, 2023 balloting opened. Sep 22, balloting closed. The draft met the threshold for returns ballots 77% (threshold of 75%) and approval rate of 80% (threshold of 75%)
8. Jan 30, 2024 10-Day Recirculation to Balloters started
9. Mar 26 RevCom Submission Deadline
10. May 06 RevCom Meeting

Links

- [Approved PAR](#)
- [ILR Web Site](#)
- [Official Draft ILR Base Document](#)
- [Motion Approving Draft ILR Framework](#)
- [Public Domain ILR Source Material](#)
- [Public Domain ILR Source Material \(v2.0\)](#)

2020

ILR was created on May 14, 2020, when IEEE approved a project approval request (PAR) for P1484.2 Standard Recommended Practice for Integrated Learner Record (ILR) with the following scope:

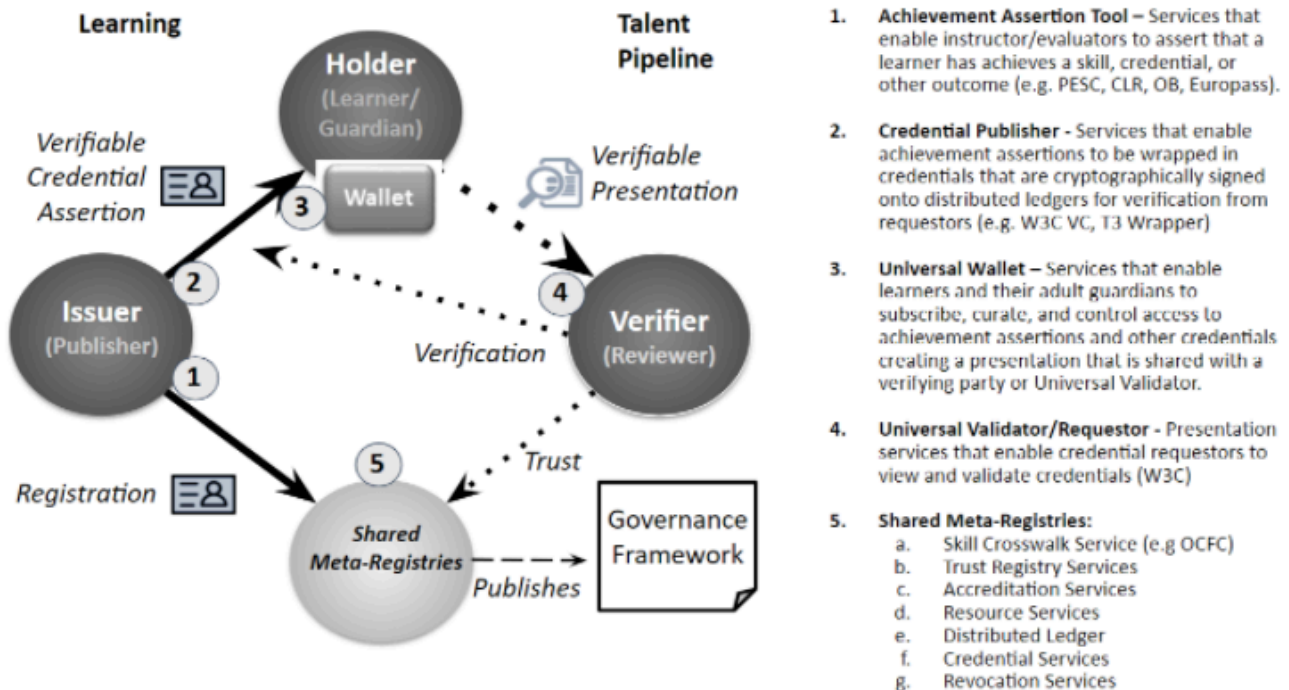
- Identity and Trust
- Open Ontology References
- Verifiable Assertions
- Integrated learner record payloads supporting the spectrum of formal or informal education and workplace learning, and military learning records.

On August 13, 2020, the working group approved a protocol to welcome public domain material into one base document and curate approved draft content in an official base document.

September 2020, the American Workforce Policy Advisory Board (AWPAB) Digital Infrastructure Working Group published a [white paper](#) updating terminology from ILR to LER.

2021

On February 11, 2021, a motion passed unanimously to approve a draft framework that organizes the ecosystem into five components:



A series of international panels of experts was convened to bring together the best known practices:

- 1. Achievement Assertion Tool** – Services that enable instructor/evaluators to assert that a learner has achieved a skill, credential, or other outcome (e.g. PESC, CLR, OB, ELM). **Panelists:**
 - Kerri Lemoie - (Badgr /Concentric Sky)
 - Phil Barker - (Cetis LLP/Credential Engine)
 - Anthony Camilleri - (Europass)
 - Jim Kelly - (PESC)
 - Phil Long - (moderator)
- 2. Credential Publisher** - Services that enable achievement assertions to be wrapped in credentials that are cryptographically signed onto distributed ledgers for verification from requestors (e.g. W3C VC, T3 Wrapper) **Panelists:**
 - Jim Goodell - Moderator
 - Marty Reed (RANDA Solutions) OCP
- 3. Digital Wallet** – Services that enable learners and their adult guardians to subscribe, curate, and control access to achievement assertions and other credentials creating a presentation that is shared with a verifying party or Universal Validator. **Panelists**
 - Nader Helmy (MATTR) New Zealand

- Irene Hernandez (Gataca) Spain
- Dominik Beron (walt.id) Austria
- Dmitri Zagidulin (MIT Digital Credentials Consortium) USA
- Sharon Leu - (*Jobs for the Future*) moderator USA

- 4. Universal Validator/Requestor** - Presentation services that enable credential requestors to view and validate credentials (W3C) **Panelists**
 - Daniel McGrogan Workday (USA) - Engineering Lead for Workday, Co-chair of Claims and Credentials WG at DIF
 - Scott Wilson - (JISC UK) - Big data & analytics specialist
 - John Kuo - (Toptal, USA) - Technical Product Lead
 - Juan Caballero (*Spruce.ID* - US/Germany) - moderator, VC standards at DIF and CCG
- 5. Trust, Governance, and Shared Meta-Registries: Panelists**
 - Colin Tuck, (European Quality Assurance Registry, Europe)
 - Drummond Reed (Evernym, TOIP, US)
 - Matt Gee (*Brighthive, US*) - Moderator

2022

In 2022, the goal is to complete a draft standard document and get it approved by IEEE to be published.

A new, simplified [Public Domain ILR Source Material \(v2.0\)](#) has been developed with a slightly revised framework to help guide the work. In this version, standard recommended practices are references as **normative** links to external resources with minimal **informative** additional text. A survey will be drafted, administered, and analyzed to generate structured feedback.

At the January meeting, the new [Public Domain ILR Source Material \(v2.0\)](#) and draft survey will be discussed and consensus will be pursued to help guide how much additional informative text is needed to set context. Any issues or concerns with this approach will be welcome.

A motion regarding this approach will be made and discussed to be voted on at the February meeting.

Motion: "The IEEE SA LTSC ILR working group will move the current version of sections 1 and 2 of the [Public Domain ILR Source Material \(v2.0\)](#) into the [Official Draft ILR Base Document](#) replacing the current content for all sections to provide a starting point Overview, Conceptual, Logical Model, and Physical Model to focus the next round of feedback and development of subsequent sections. The goal of the effort is to work towards a complete draft by the end of 2022."

In September, the WG unanimously approved a new updated draft PAR changing the name from ILR to LER and updating certain other language.

The year ended on schedule with a complete draft.

2023

2023 began with a distribution of the Global Review Draft and Individual Contributor Google form

At the Feb 2, 2023 monthly meeting each piece of feedback was responded to and a plan was agreed to attempt to complete a draft for possible vote in March.

Mar 2, 2023 the WG approved the draft.

The draft was put into IEEE style template with macros. After input from the MEC, the annexes were dropped and a slimmed down draft created to advance.

Aug 23, balloting opened. Sep 22, balloting closed. The draft met the threshold for returns ballots 77% (threshold of 75%) and approval rate of 80% (threshold of 75%)

Ballot Details for P1484.2 Recommended Practices for Learning and Employment Record (LER) Ecosystems

Project information

PAR/Standard#:

P1484.2

Project Title:

Recommended Practices for Learning and Employment Record (LER) Ecosystems

Project Type:

New

Ballot Stage:

Ballot

Ballot Type:

Individual

Invitation Open Date:

14 Jun 2023

Invitation Close Date:

13 Aug 2023

Links:

PAR

Invitation

Draft Standard & Additional Ballot Documents

Standards Committee/Working Group

Standards Committee:

IEEE Computer Society/Learning Technology (C/I T)

Related Actions

Ballot Summary

Ballot Results

Ballot Stage

Initial Ballot

Open Date:

23 Aug 2023

Close Date:

22 Sep 2023

Status:

Open

Draft Number:

1

Meets Editorial Requirements

Ballot Group Members

48

Minimum should be 10

Return Ballots:

(37) 77%

Minimum return rate is 75%

Abstentions:

(1) 2%

Abstentions must be below 30%

Approval Rate:

80%

Approval rate must be at least 75%

Votes counted in approval rate:

Approve

29

Disapprove With MBS Comment(s)

7

Total

36

Votes not counted in approval rate:

Disapprove Without MBS Comment(s)

0

Abstentions

1

Total

1

Total Votes:

37

Total Comments:

170

The vote tally for "Disapprove With MBS Comment(s)" = current Disapprove votes for

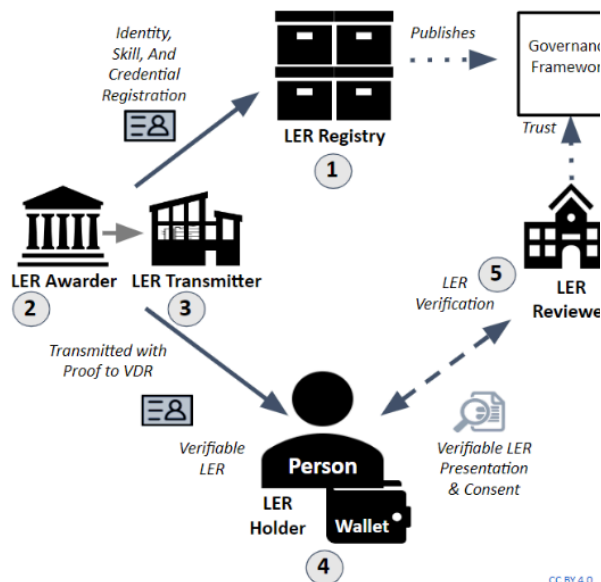
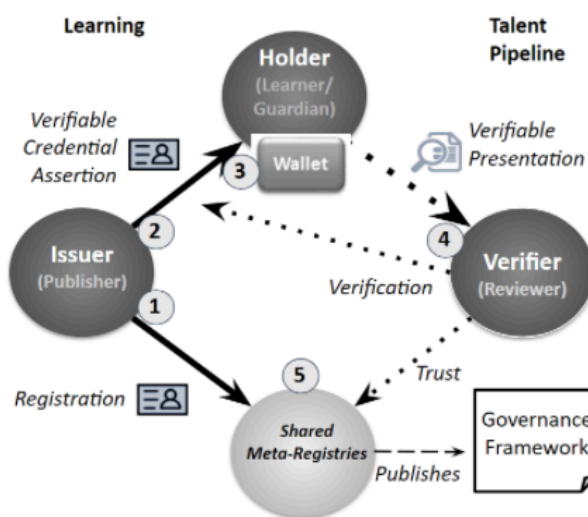
Dec 7, at the Monthly WG meeting, the group voted unanimously to approve draft V2. The WG leadership is working now to reconcile V2 with the 171 comments from balloters to re-submit to balloters.

2024

4/4 IEEE P1484.2

1. The Standard.

- Status:** On May 6, right about 4 years after the PAR was approved, the IEEE RecCom are currently expected to approve recommendation of a new global standard P1484.2: Recommended Practices for Learning and Employment Record (LER) Ecosystems
- Evidence:** IEEE Program Manager Vanessa Lalitte's response to the question
 - Are no currently known issues that would interfere with RevCom review and action in May?
 - was, "At this point, no. However, when the agenda is open for the RevCom members to review they may have questions based on their review. This is all in preparation for the RevCom meeting. The agenda will be open later next month for their review.
- Substance:** A common LER ecosystem framework that builds off normative W3C VC and DID



On February 11, 2021, a motion passed unanimously to approve a draft framework that organizes the ecosystem into five component

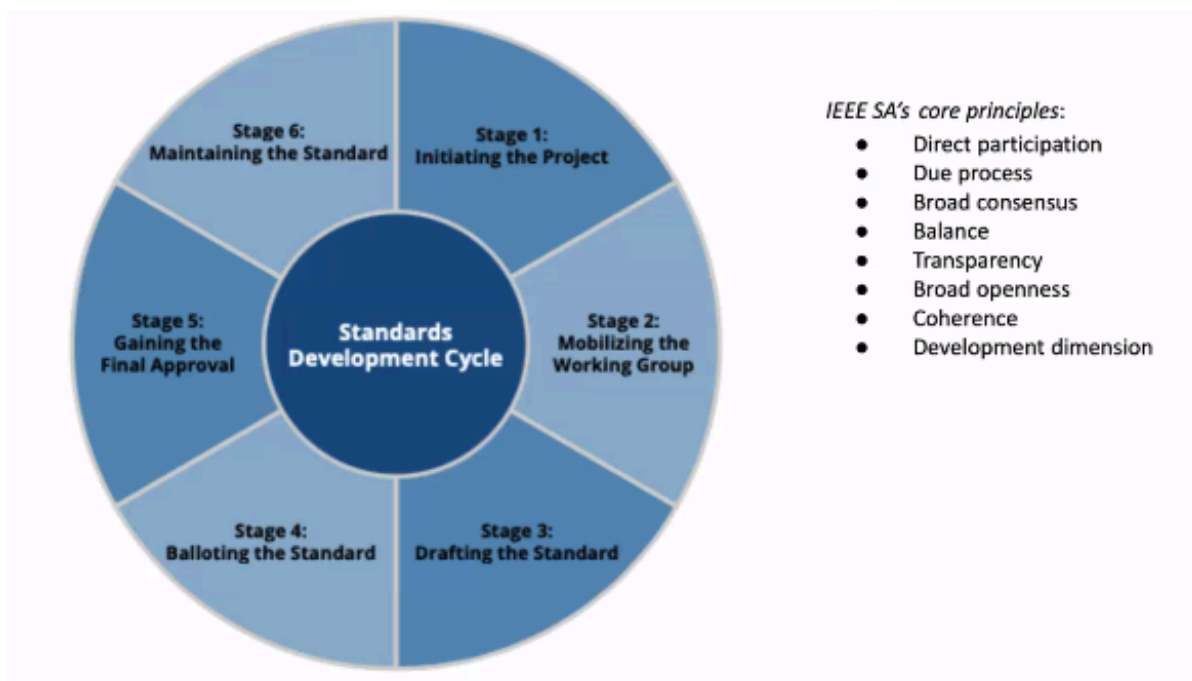
The final set of recommendations evolved and improved the initial recommended framework.

2. The Appendix of Resources

- When the workgroup first approved the [complete draft on Mar 2, 2023](#), the draft included a large set of Annexes of informative resources such as technical standards needed to implement the the LER framework.

Definitions

- An IEEE Standard.** A document approved and published by IEEE. An open source, marked down version of the document can be made available as well.



- Supportive open resources.** Technical standards and other resources made available for free by non-profit organizations that map to the five components of the P1484.2 framework.

3. **Open source projects.** Collections of software code made available broadly through GitHub/Lab with IEEE SA approved controls for IP and malicious code organizations that map to the five components of the P1484.2 framework.
4. **IEEE Registration Authority.** IEEE offers Registration Authority programs or registries which maintain lists of unique identifiers under standards and issue unique identifiers to those wishing to register them. The IEEE Registration Authority assigns unambiguous names to objects in a way which makes the assignment available to interested parties.

Proposed Approach

1. **An IEEE Standard.** The governance process for the Standard is well understood and will soon complete.
2. **Supportive open resources.** The spreadsheet I shared provides a starting point for the Open Resources. I propose to publish the spreadsheet and set up a ticket system for people to suggest edits, review committee of approved individuals to make the edits, and appeal process to the WG and LTSC if there are disagreements.
3. **Open source projects.** So far, OCP is the only Open Source Project approved inside of SA Open associated with P1484.2. OpenSALT and Craft are examples of additional projects that were created outside of IEEE SA Open that would like to be recognized as meeting IEEE SA Open standards for safe open source. SA Open should let us know what process we should go through to make these
4. **IEEE Registration Authority** P1484.2 explicitly defines the LER Registry as a “ Shared services that provide trusted governance of, and access to, catalogs of LER Awarders descriptions and LER specifications (e.g., credential type, credential descriptions, and competencies) to verify the LER Awarder and the details of the LER being awarded.” At the next monthly WG meeting, I’d like to invite a rep from RAC to discuss IEEE support for LER registries.

3. Open Source.

- a. On March 12 12 Jim Coodell sent an e-mail to LTSC WG chairs announcing a “**Temporary Freeze on New Non-RevCom Approved Open Content**”

“Please be advised that LTSC Leadership is putting a temporary freeze on additions or updates to SA Open repositories for content that has not passed RevCom approval. This freeze takes place immediately and applies to any content that has not been developed under an approved PAR, balloted, and approved by RevCom.

The freeze will be lifted when there are additional policies in place to address the nuances of open source content while honoring the intent of the Standards Association's time-tested policies and practices for standards development in compliance with the IEEE Standards Association Operations Manual and IEEE SA Standards Board Bylaws. We will cooperate with IEEE staff and OSCom to help fast-track the establishment of such new policies and examine LTSC procedures for open source projects.”

- b. According to LTYC Leadership: OSC hold is temporary to ensure correct policies to address new ethical ground of mixing of standards with other content that is otherwise not allowed in IEEE standards. Questions they would like answers to include:

- i. Are repos considered contributions?
- ii. What if something expires?
- iii. What if the working group is no longer meeting or cannot achieve quorum and something expires?
- iv. Who makes the decisions and do they have to be done in concert with the Working Groups?
- v. If companies make contributions, can they have any sort of branding on it?
- vi. Their names?
- vii. Consequences for not following any of those if the WG or LTSC made policy?