Universal Learner Record

> **Problem Statement.** *To support a learner-centric continuum of lifelong learning, individual profiles and performance records must be (safely and ethically) portable across time, system, and institutional boundaries. This capability does not yet exist, and current data standards and specifications are not yet harmonized to support this vision.*

Background: Records of *Department of Defense (DoD)* personnel's learning and development experiences are distributed across a variety of systems and locked into countless disparate data formats. Transport, control, management, governance, and ownership of such data are not easily accomplished—particularly across technological and organizational boundaries. To help address this limitation, in 2018 and 2019, the DoD Chief Management Officer issued guidance directing development of an enterprise-wide learner record repository.[1] In 2019, the ADL Initiative, in collaboration with the OUSD(Intel) Human Capital Management Office, partially addressed this requirement via the *Talent Development Toolkit Requirements and Architecture* report,[2] which provided a set of proto-requirements (grounded in the Total Learning Architecture) to include designs for a federated system of learners' profiles and records. The ADL Initiative continues to build upon the *Talent Development Toolkit* work, and in FY20 plans to mature the federated identity management methods described in the report. Finally, the DoD and other federal agencies, along with businesses and academic organizations, are currently collaborating on the T3 Innovation Network's Learner-Worker-Military comprehensive record project, which focuses on harmonizing interoperability standards for learning and employment.[3]

Outcomes: This project should build upon prior efforts and be designed to interoperate with Total Learning Architecture specifications. This project will define an **initial set of requirements** and associated **specifications** for an enterprise-wide universal learner record system, which (as described in the *Talent Development Toolkit* report) is envisioned as an aggregation of learner data from federated sources.[4] The requirements and specifications should consider, for instance:

- The full lifecycle of learner records.
- Federated data governance policy/business-process recommendations.
- APIs that allows federate applications to publish/subscribe to a universal learner record.
- Recommendations for negotiating between learner control and organization control/use of their data.[5]
- Validation and trust of data (both for human stakeholders and technological systems).
- Best practices for the management and maintenance of aggregation/de-aggregation of learner profile data.

This project will culminate in an **operational prototype** (i.e., reference implementation model) of the universal learner records system, including a demonstration of its publish/subscribe services and the methods it employs for managing privacy, cybersecurity, identity verification/authentication, and validation (trust) of data. Note, while the documentation should address a DoD-wide federated solution, the prototype can be demonstrated at the local (enclave or federation) level.

Summary of Major Objectives	Associated Deliverables
Functional requirements for a DoD universal learner record system	System requirements document
Design of the universal learner record (instance) and larger system	System design document
Prototype universal learner record (instance) and federated system	Reference implementation (software)
Demonstration of interoperable universal learner record	Successful test and demonstration

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[1] For example, see OPM.gov (2019, March 3). OPM Signs MOA to Give DOD Access to Reskilling Platform

[2] Gordon, Jerry. (2019, June) Talent Development Toolkit Requirements and Architecture, Version 1.0.

[3] See https://www.uschamberfoundation.org/t3-innovation/pilot-projects

[4] For this effort, limit the scope to data from learning and development systems (not the full talent management cycle)

[5] See the ADL Initiative's "Privacy Support for the Total Learning Architecture" project, for prior research in this area

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