

DAU



ADL/DAU Innovation Sandbox Briefing



Agenda

- Introduction
- TLA Sandbox Program
- DAU Modernization Overview
- DAU's Innovation Sandbox System Design
- Open Discussion / Q&A



- Building the Infrastructure for DoD Digital Learning Modernization:
<https://www.adlnet.gov/news/2020/07/30/Building-the-Infrastructure-for-DoD-Digital-Learning-Modernization/>
- 2019 Total Learning Architecture (TLA) Report:
<https://www.adlnet.gov/resources/publications/2020/04/2019-Total-Learning-Architecture-Report/>
- 2020 Institute for Defense Analysis report on TLA:
<https://www.adlnet.gov/resources/publications/2020/07/ADLs-Total-Learning-Architecture-IDA-Report-2020/>
- ADL Report on Competency Based Learning:
<https://www.adlnet.gov/resources/publications/2019/08/Competency-Based-Learning/>
- ADL GitHub: <https://github.com/adlnet>



The Total Learning Architecture is a R&D project to design a **business enterprise architecture** for learning (training/education) systems.

TLA Business Enterprise Architecture includes:

- Digital learning data strategy
- Data and software interoperability standards
- Specifications for microservices
- Specifications for technology architecture implementations
- Recommendations for business rules and governance

TLA R&D project also includes:

- “Reference implementations” (i.e., exemplars like model homes)
- “Sandboxes” for DoD Stakeholder Testing and Evaluation

* Some of the TLA Reference Implementation components and Data/Software Standards can also standalone as unique deliverables

Header	Requirement	Priority	Comments
Error Trapping	Learning Event Management service shall be able to identify incoming xAPI statement with an actor that is not a valid color, registered component, or identity idtag		
Error Trapping	Learning Event Management service shall be able to identify if an incoming xAPI statement is not well formed		
Error Trapping	Learning Event Management service shall be able to identify that an incoming xAPI statement is not from a registered device		
Error Trapping	Learning Event Management service shall be able to identify that an incoming xAPI statement references an invalid existing item		
Error Trapping	Learning Event Management service shall generate an administrator alert if invalid xAPI statement is received		
MCOM Profile	TLA compliant enclave and Federation shall be able to process learner state RAW the TLA MCOM (IEEE P2974.3.3) as received from edge devices	2019	
MCOM Profile	TLA compliant enclave and Federation shall be able to process learner state RAW the TLA MCOM (IEEE P2974.3.3) as received from the alert and notification system	2019	
MCOM Profile	TLA compliant enclave and Federation shall be able to	2019	

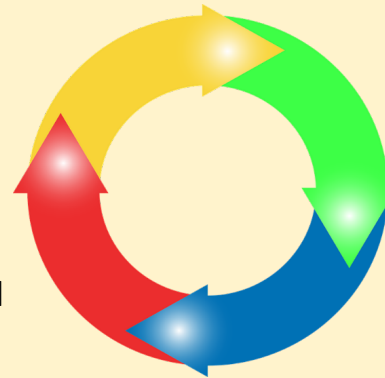


The DODI 1322.26 Policy Framework:

- Federated Data Strategy for all training and education related data.
- Derived from internationally accepted technical specifications and standards
- Ensures portability of learning data between enclaves
- Provides auditability and Non-Repudiation of Competencies and Credentials
- Facilitates enterprise Analytics, Artificial Intelligence, and Automation

Activity and Resource Metadata

- Experience Index
 - Inventory of Courses, Activities, and Content
 - Stores Metadata
- Metadata Strategy
 - IEEE P2881
 - Descriptions of Available Learning Resources
 - Cognitive Alignments and Relationships



Learner Records

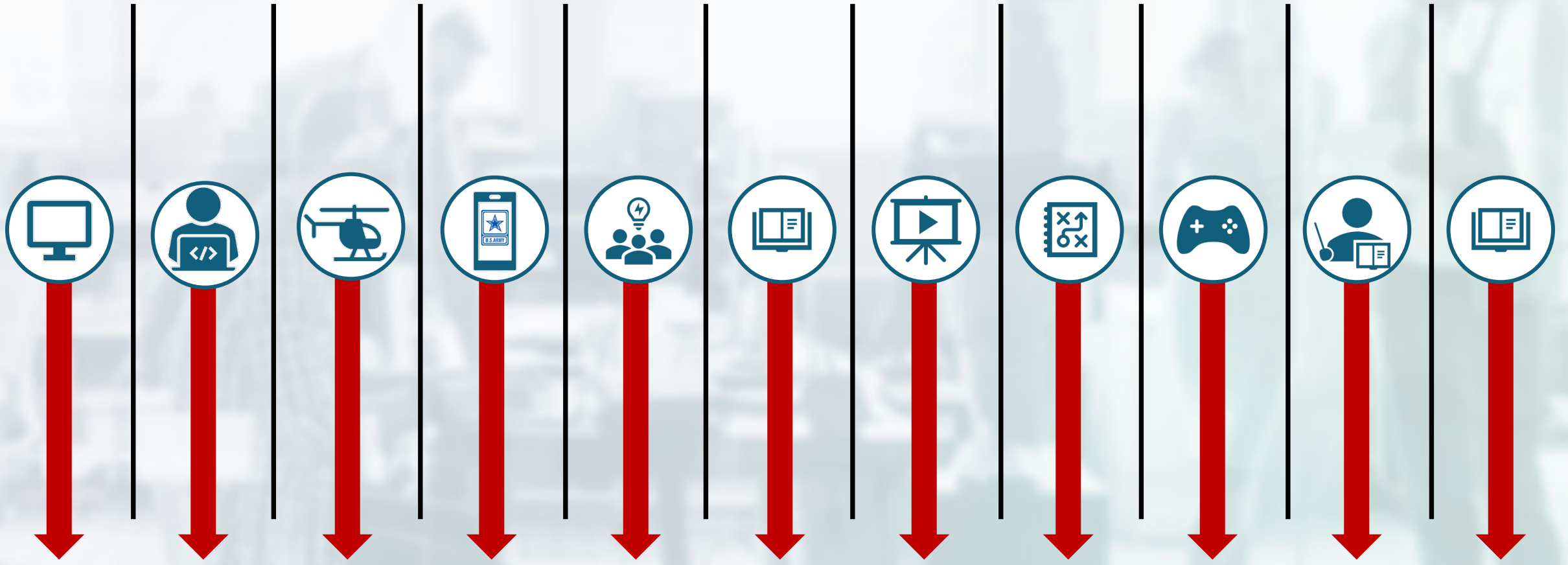
- Unique User ID (UUID) mapping
- Learner Attributes
 - C & C Ledger
 - Learning Activity Ledger
 - Preferences
- Interface with HR / Talent Management

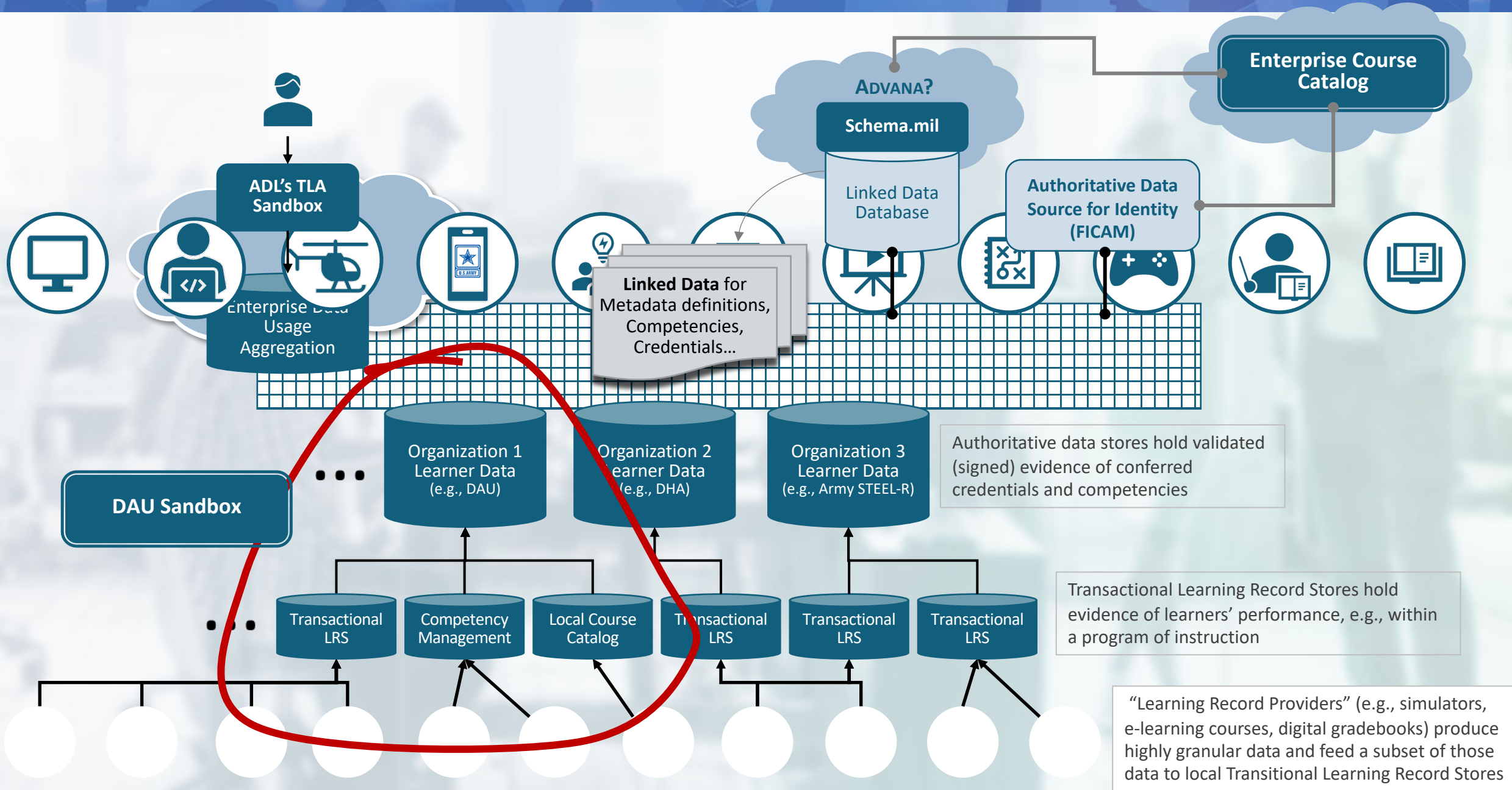
Learning Event Tracking

- xAPI Profiles
 - Controlled Vocabularies
 - Domain Specific Context
 - Cmi5 Specification
 - Master Object Model (MOM)
- Federated Learner Record Stores
- Evidence of Learner Performance

Competency Framework

- Competency Description
 - IEEE 1484.20.1
 - Knowledge, Skills, Abilities, and Other Attributes
 - Required Credentials
 - Tasks, Conditions, and Standards
 - Levels of Mastery
- Occupational Alignment





DAU Transformation

Impetus

- Streamlining of DoD acquisition system – enhance critical thinking
- BtB talent framework – credentialing, continuous learning
- Feedback – more, smaller, faster, current, relevant

Transformation Initiatives

- Curriculum redesign
- ILT > VILT & self-paced
- Learning Asset CM Strategy
- Experimentation
- Content Curation
- Credentialing
- Commercial Best Practices
- Faculty & Staff Development
- Ecosystem enhancements
- IT Infrastructure upgrades
- Website upgrades
- New authoring tools



Force Multiplier

Platform Modernization

Frictionless Learning

Easy access to training and resources at the moment of need

Dynamic Network

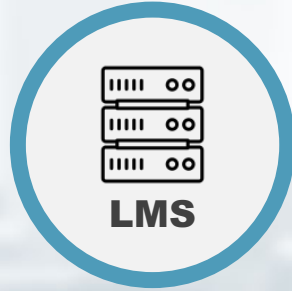
Connecting people who need information with people who have it

World Class Content

High quality, current and relevant content

Traditional ecosystem

- LMS does it all (course delivery, tracking, reporting)
- Transcript/training records sent to system of record
- Sufficient for certification based on overall course pass/fail tracking



Course Completion Data
(pass/fail)



Where DAU is headed



Smaller

Shorter classes and online learning modules



Virtual

Synchronous instructor-led and collaborative learning



Informal

More informal online learning resources and tools



Engaging

More modern and engaging experiences - games/sims



Competency Aligned

Bringing it together

ICAM

Instrument immutable ID for learner

xAPI

Implement LRS(s) and outfit learning record providers with xAPI

Dashboards

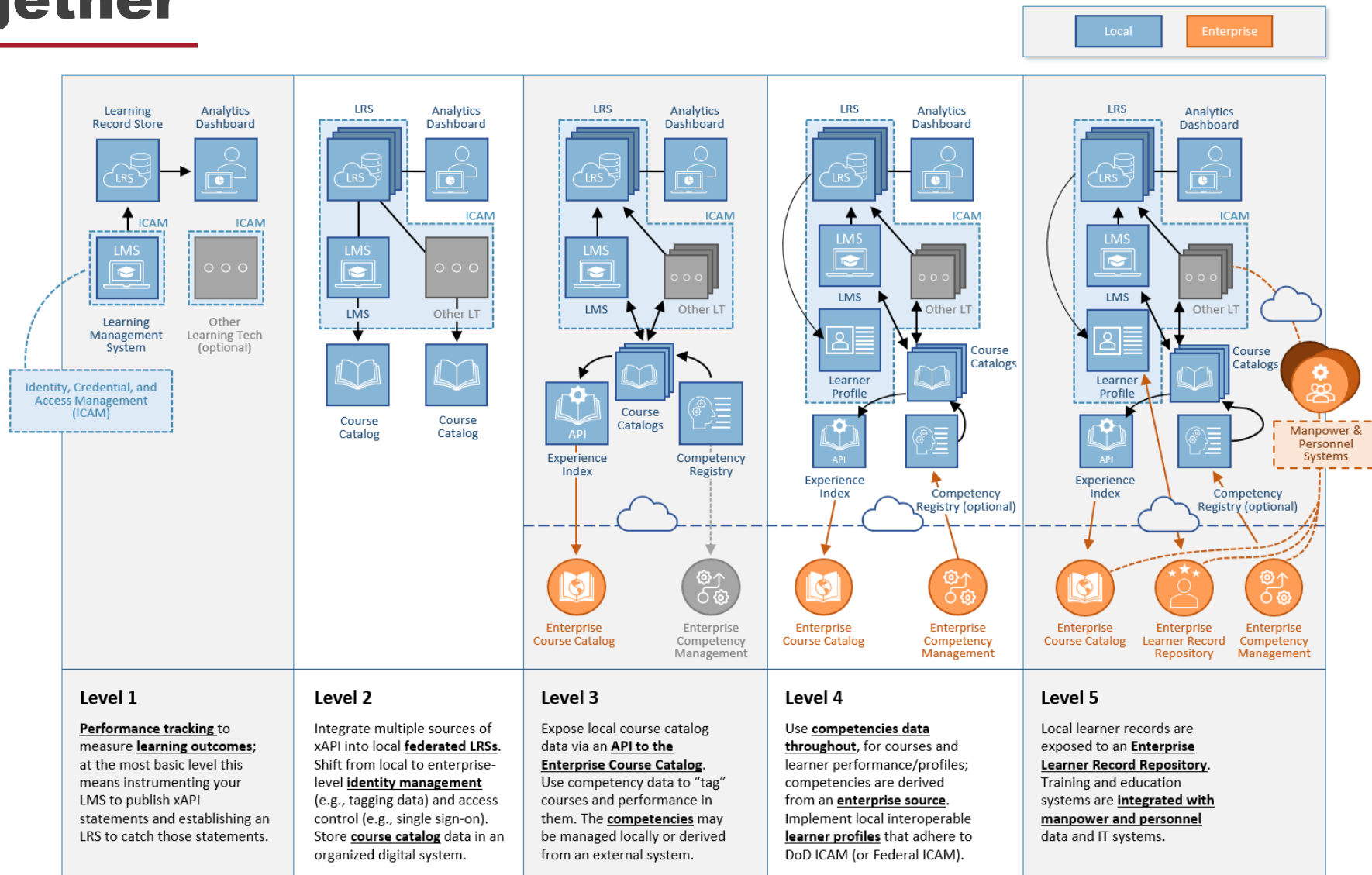
Align dashboards to LRS data and automate triggers to respond to pertinent activities

Competencies

Align competencies to learning activities in the Experience Index (XI)

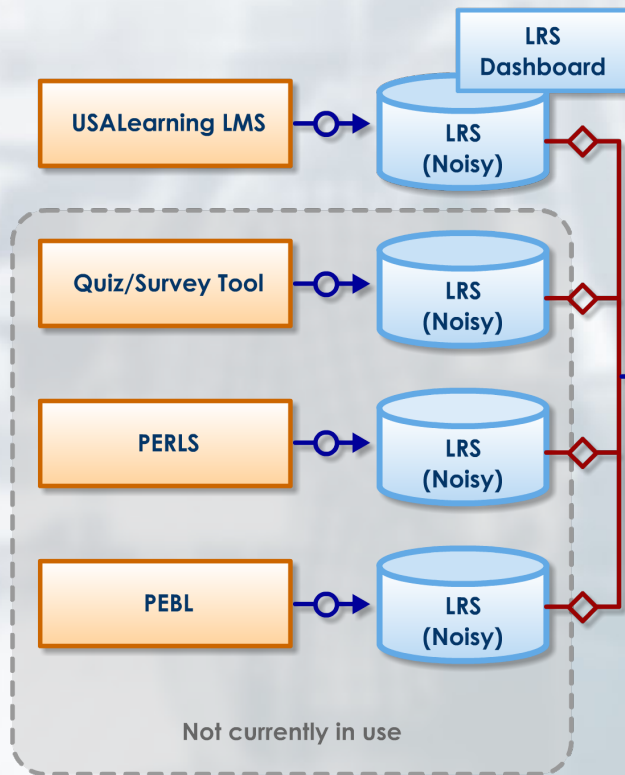
Interoperability

Ship catalog data to ECC and relevant learner record data to ELRR

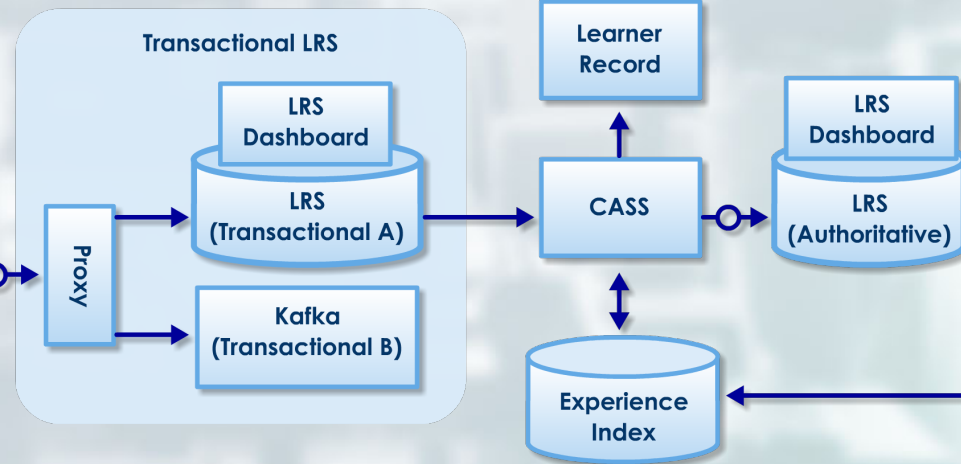


System Design

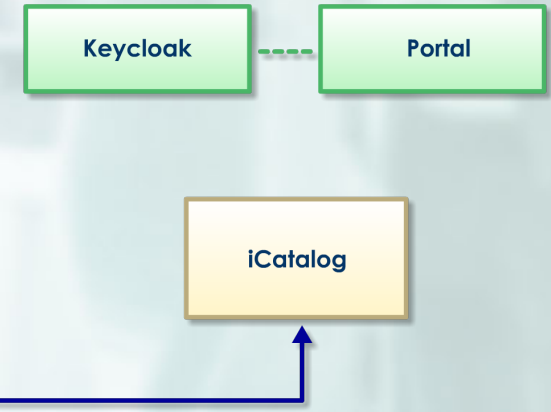
Learning Systems



TLA Core Components



DAU/Custom Systems



○ xAPI
 ◇ MOM Interpreter Script

Questions?

