Workforce Development Design from Authoritative Competency Sources

iFEST 2018 - The Future Learning Ecosystem
August 29, 2018

Panel:
- Wayne Gafford, CRADA Principal Investigator Navy, Enterprise Product Data & Learning Management Strategist, PHD NSWC/OPNAVN12
- Jeanne Kitchens, CRADA Principal Investigator Credential Engine, Associate Director, SIUC CWD
- Lisa Lutz, President, SOLID
- Fritz Ray, Director of Engineering, Eduworks

The Work We're Doing in Two Related Navy Projects
Main Theme: Linking Authoritative Sources to
Technical Competencies, Tasks, and Curriculum

1
Competencies need
authoritative sources
(i.e., Maintenance Tasks).

2
Authoritative sources constantly
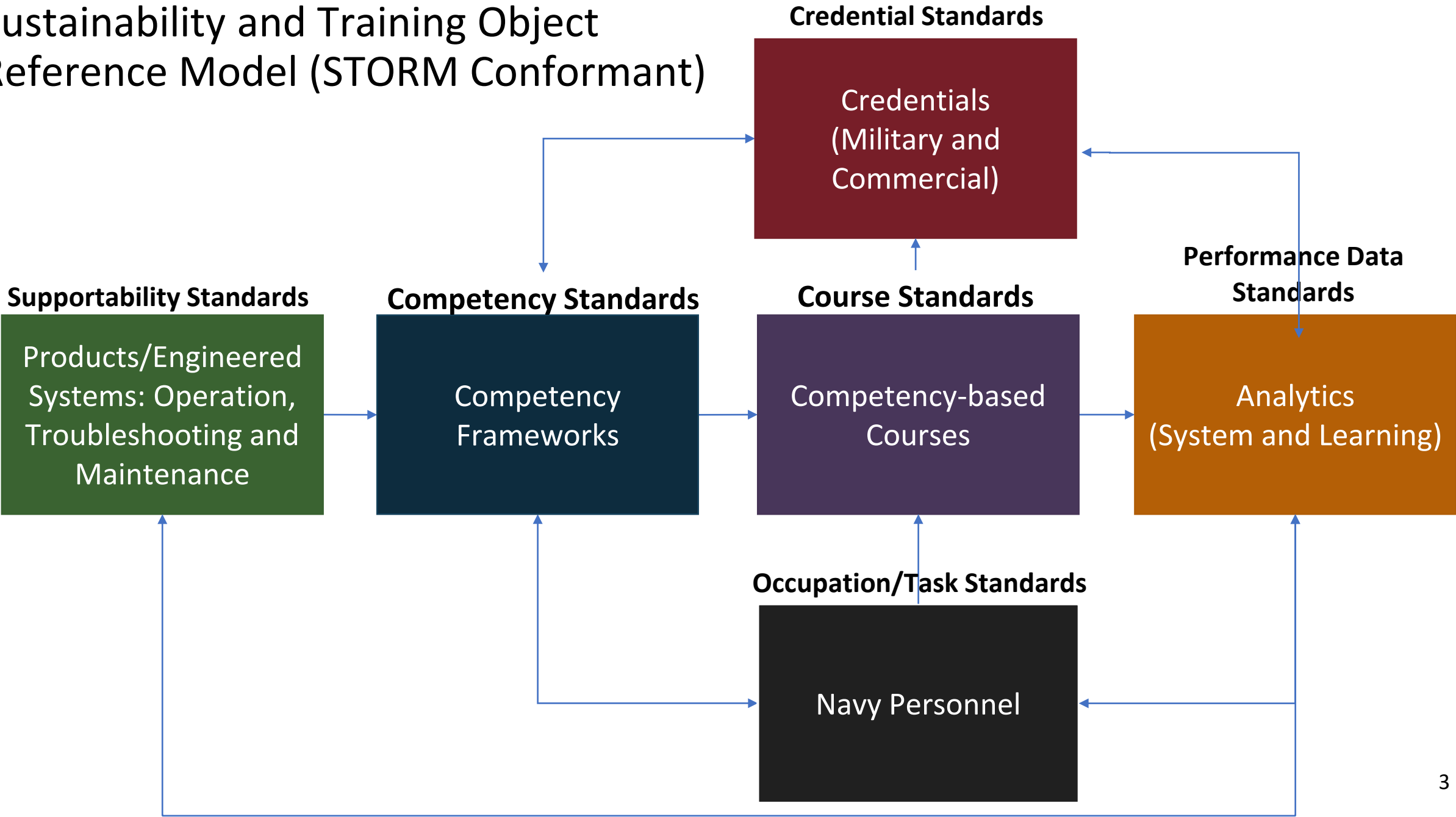add new versions
(i.e., Engineering Change Proposals).

3
Competencies must reliably link to
systems, people, and their work
(i.e.,Configuration Management).

4
Learning is accurate when
competencies link to constantly-
changing authoritative sources (i.e.,
Readiness).

Sustainability and Training Object Reference Model (STORM Conformant)

Credential Standards

Credentials (Military and Commercial)

Supportability Standards

Products/Engineered Systems: Operation, Troubleshooting and Maintenance

Competency Standards

Competency Frameworks

Course Standards

Competency-based Courses

Performance Data Standards

Analytics (System and Learning)

Occupation/Task Standards

Navy Personnel

The Projects We're Doing
Integrating Learning with Navy Systems

Project 1

CRADA:
Navy and Credential Engine extracting competencies from maintenance task analysis.

Project 2

OPNAV N12:
Creating Acquisition Requirements for Training Transformation (ARTT Project).

Project 1: Cooperative Research and Development Agreement (CRADA)
U.S. Navy and Credential Engine

1. Data Standards Mapping

Product data standards (i.e., GEIA 0007 & S3000L) to open competency frameworks (i.e., CTDL-ASN).

2. AI Development

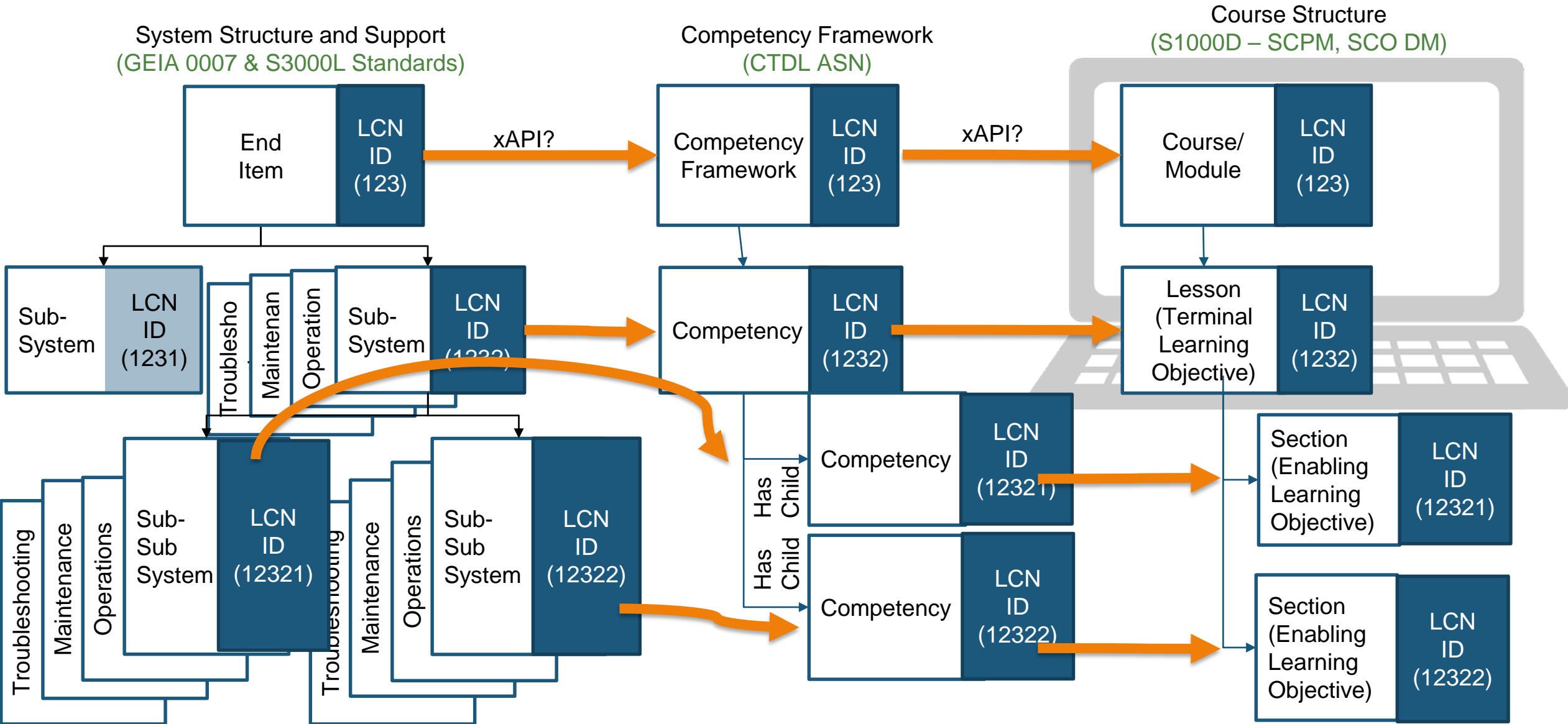TLOs extracted from maintenance task analysis using AI.

3. Course Framework Development

Courseware framework (i.e., S1000D) derived from TLO structure.

4. Learning Analytics (TBD))

Question: How are system performance requirements used as baseline for human performance evaluation?

STORM-Conformant Data Acquisition

STORM Conversion Toolbox

Localhost

Step 2: View Linked Product Data

Here, we can see the output of step 1. The product data has been parsed, made linkable, and placed in a search engine.

Search for Products

Products
REFRIG UNT ▾ 2 results found.

Components and Subcomponents
0 ▾ 275 results found.

Tasks
REPLACE REFRIGERATION UNIT ▾

Subtasks
CLEAN OUTSIDE WALL SURFACE TO INSURE ▾

{
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    "predicted_mean_man_hours": "0.70"

Step 1 — Import 0007 or S3000L
Step 2 — View Linked Product Data
Step 3 — Expand Product Data
Step 4 — View Expanded Product Data
Step 5 — Convert Product Data to CTDL/ASN
Step 6 — View Conversion Process
Step 7 — View AI/NLP Method for writing TLOs/ELOs
Step 8 — View Output Framework
Step 9 — View CTDL/ASN
Step 10 — Export S1000D

First steps in learning engineering: 1st glance at authoritative maintenance tasks translated through AI into technical competencies.

7

Project 2: OPNAV N12-Manpower, Personnel, Training and Education Acquisition Requirements for Training Transformation (ARTT Project)

Project Objectives

1
Improve life cycle management of technical training curriculum.

2
Link training applications to Product Lifecycle Management tools.

3
Create data-driven learning analytics derived from sailor activity streams compared to logistics data using xAPI.

4
Establish ability to conduct training effectiveness evaluation procedures from data-driven human and system performance analytics.

Project 2: Linking People to Credentials, Competencies, and Navy Systems

1. **NTC Defines Navy Work**
Navy Task Classification (NTC) System defines work Sailors perform.

2. **Need to Ensure NTC Reflects Real-time Competency Requirements**
NTC does not incorporate linked data and cannot interface with other sources in PLM construct.

3. **Establish Linked Data Thread**
Create authoritative data system for NTC and incorporate CTDL-ASN.

4. **Ensure Interoperability**
Improve real-time notification of potential need for changes in PLM construct.

Project 2: Linking People to Credentials, Competencies, and Navy Systems

1. Need to Assess Competency
Need for multiple mechanisms to measure competency and gauge Sailors' ability to perform.

2. Use Military and Civilian Credentials to Assess Competency
Military and civilian credentials can demonstrate competency.

3. Establish Linked Data Thread
Incorporate CTDL in Navy systems housing military and civilian credentials.

4. Track Competency Attainment
Improve competency tracking capabilities, meet Ready Relevant Learning goals, and aid recruiting and detailing.

Closing Q&A

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