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Information Warfare Force and Systems Readiness Assessment

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INFORMATION WARFARE FORCE AND SYSTEMS READINESS ASSESSMENT

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Project Summary

The education, skills and experience required for Information Warfare (IW) warfighters have not been fully identified nor have training programs been evaluated for their capability to support IW force and systems readiness.

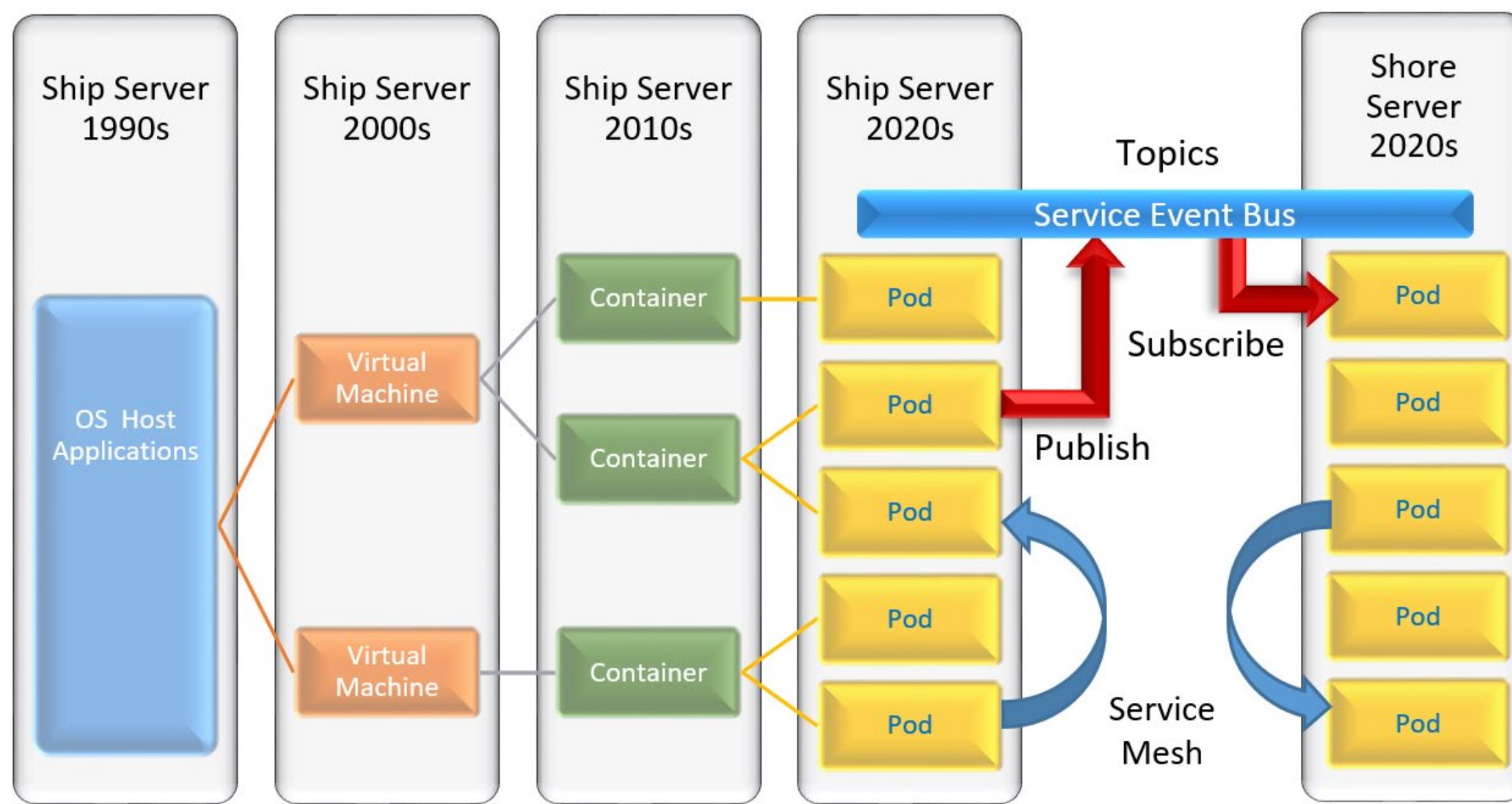This project evaluated Cryptologic Technician - Collection (CTR) and Cryptologic Technician - Technical (CTT) curricula and supporting directives and guidance to help structure a process for IW systems and warfighter readiness assessment.

Instructor assembles modules

Module library

Module 1

Module 2

Module 3

Module 4

Course Progression

Algorithm

Accelerated Learner

Prediction
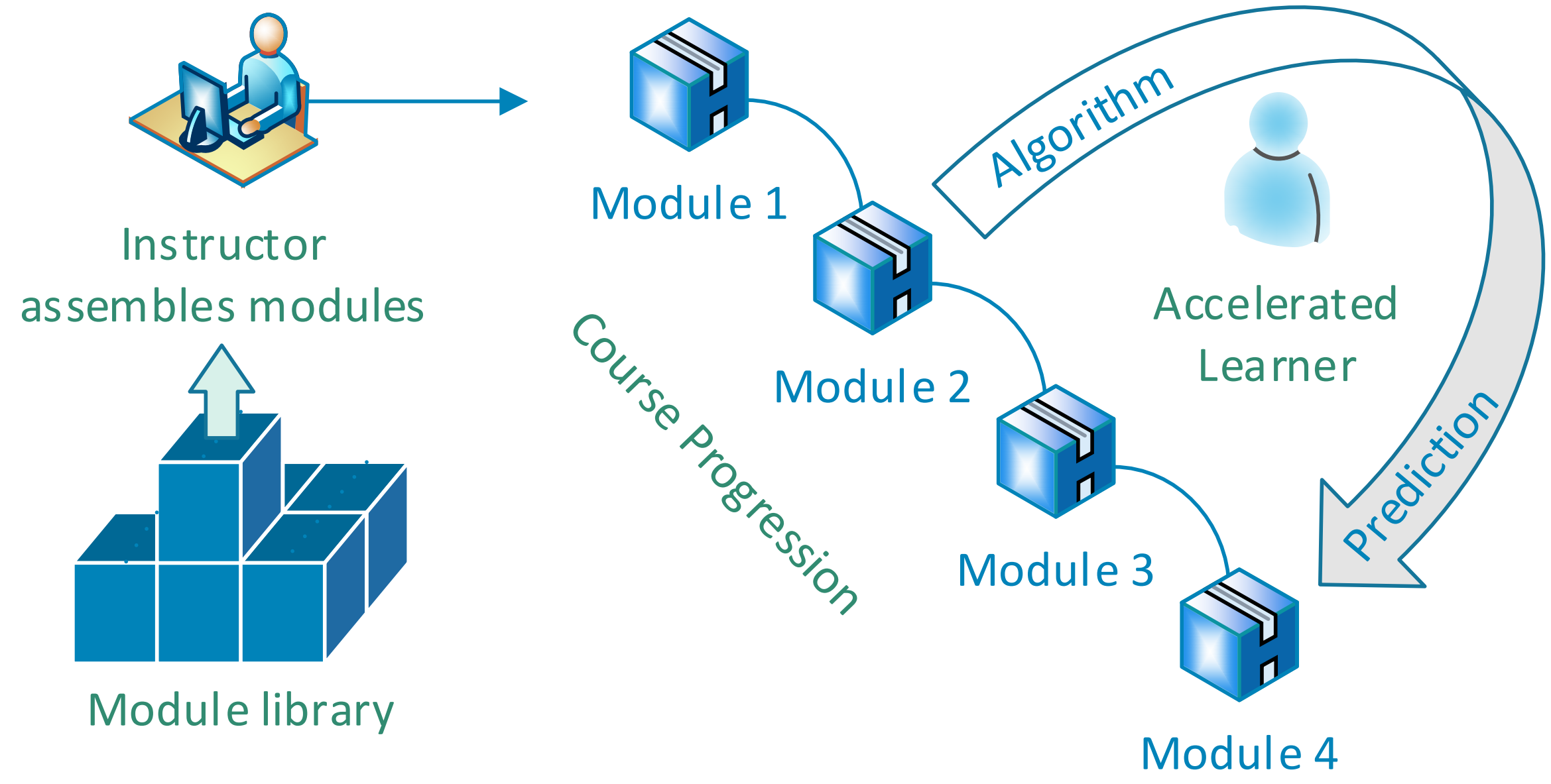
AI/ML algorithm-assisted point-of-need adaptive training

Ship Server 1990s — OS Host Applications

Ship Server 2000s — Virtual Machine

Ship Server 2010s — Container

Ship Server 2020s — Topics / Service Event Bus / Pod / Subscribe / Publish / Service Mesh

Shore Server 2020s — Pod

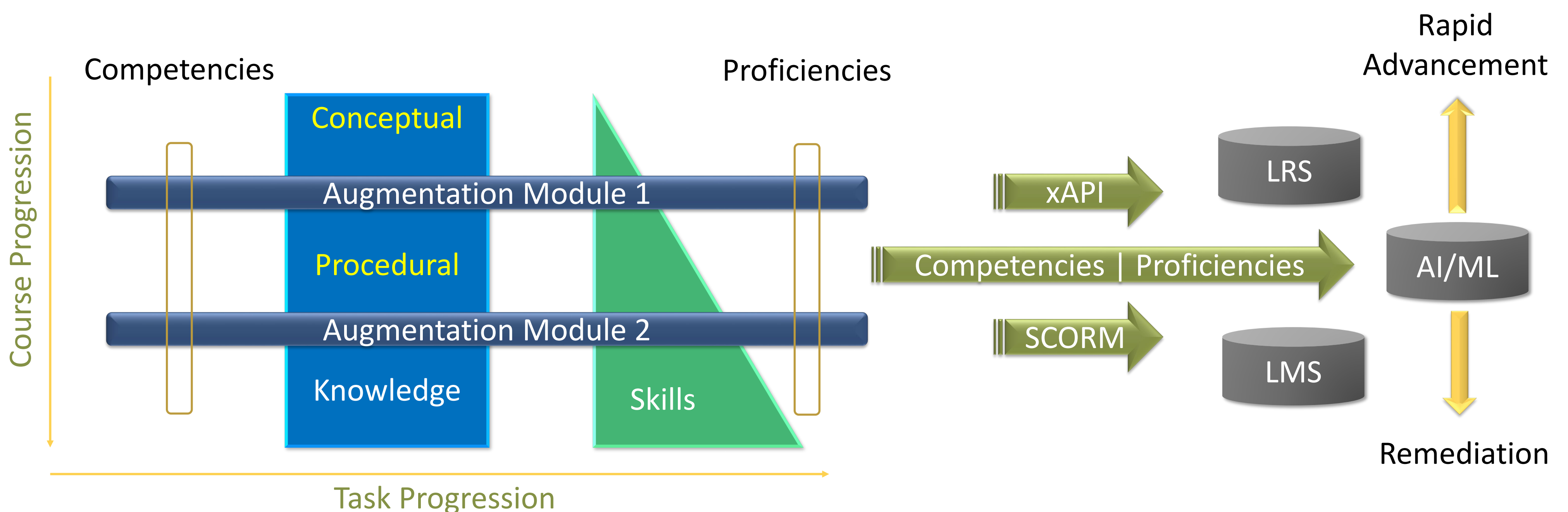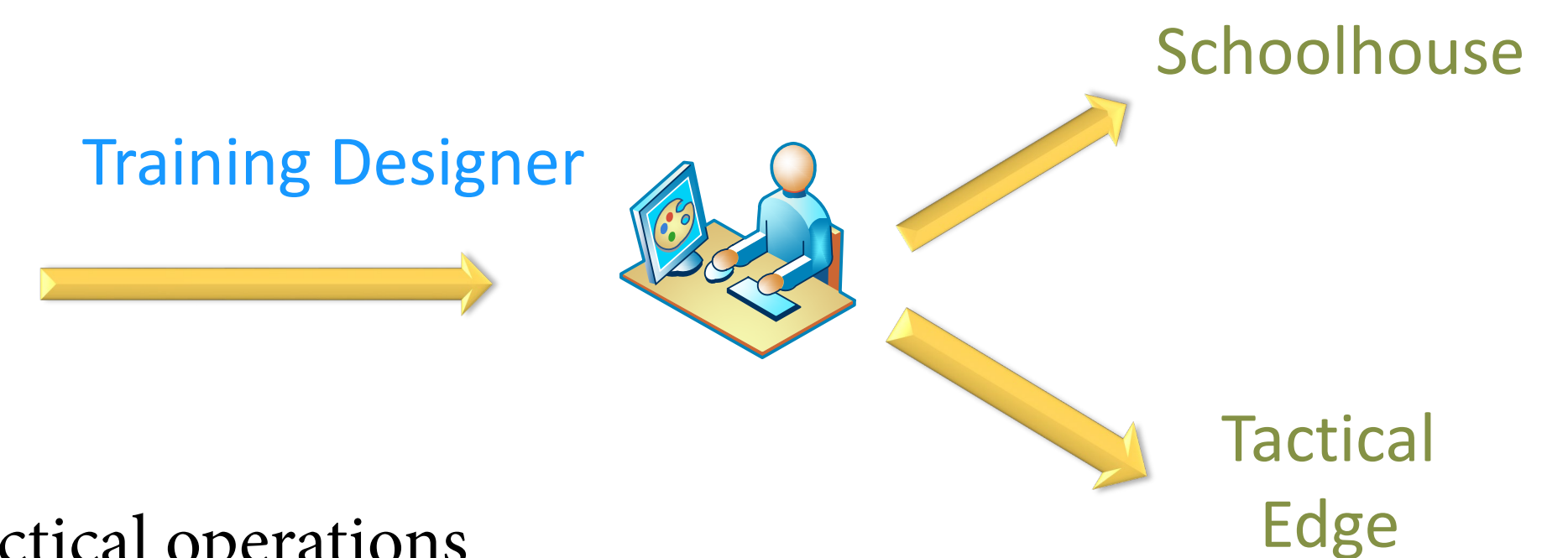*Evolution to training micro-service mesh for adaptive tactical training*

Research Objectives

➢ Assess IW requirements and training objectives for CTR and CTT systems and operations

➢ Structure CTR/CTT courses and training objectives into frameworks for IW force and systems evaluation

➢ Align metrics for knowledge and skills as the basis for redundancy reduction and gap identification

➢ Evaluate training delivery, assessment, and AI/ML techniques for adaptive training and decision support

Findings and Conclusions

Problem: Current training uses linear course structure
Solution: Augment with dynamic adaptive interactive modules

Problem: Rapidly evolving C5ISRT technologies/knowledge/skills
Solution: Align knowledge competencies/skill proficiencies with tactical operations

Training Designer

Schoolhouse

Tactical Edge

Competencies

Proficiencies

Rapid Advancement

Course Progression

Conceptual

Augmentation Module 1

Procedural

Augmentation Module 2

Knowledge

Skills

Task Progression

xAPI → LRS

Competencies | Proficiencies → AI/ML

SCORM → LMS

Remediation

Integrated schoolhouse/tactical training design workflow

Future Work

➢ Implement content design and assessment guidance for competencies, knowledge, skills, abilities, experience

➢ Address identified gaps and institute proficiencies to track technology adoption, implementation, training

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Topic Sponsors: Commander, Naval Information Forces

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