Headquarters U.S. Air Force

Integrity - Service - Excellence

AFAMS

Mid-Tier Training Device Adoption Opportunity

Jason Austin, System Engineer, AFAMS

The USAF Transition to Technology-Enabled Competency-Based Training

Andrew Palla, Engineer/SME, iPerformX in support of AFAMS

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AFAMS Advancing Training Through Innovation

- As part of AFAMS eXploration Division's mission to identify, evaluate, and transition emerging training technologies, we are focused on maximizing the value of proven systems like the Mid-Tier Training Devices (MTDs).
- These devices were developed under the AMF-S course by 19AF using the AFMS3 contract and feature immersive training with mixed-reality headsets and 3DOF motion.
- In 2024, AETC approved MTD time as official simulator hours, enabling the retirement of the T-1 fleet while preserving training effectiveness.

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AFAMS Offers an Adoption Opportunity

- 21 MTDs are available for adoption by U.S. Government partners, ROTC detachments, and academic institutions.
- AFAMS and support personnel discuss delivery, setup, and limited sustainment—licenses included.
- This initiative prevents DRMO disposal and extends the lifecycle of valuable, field-proven training assets.

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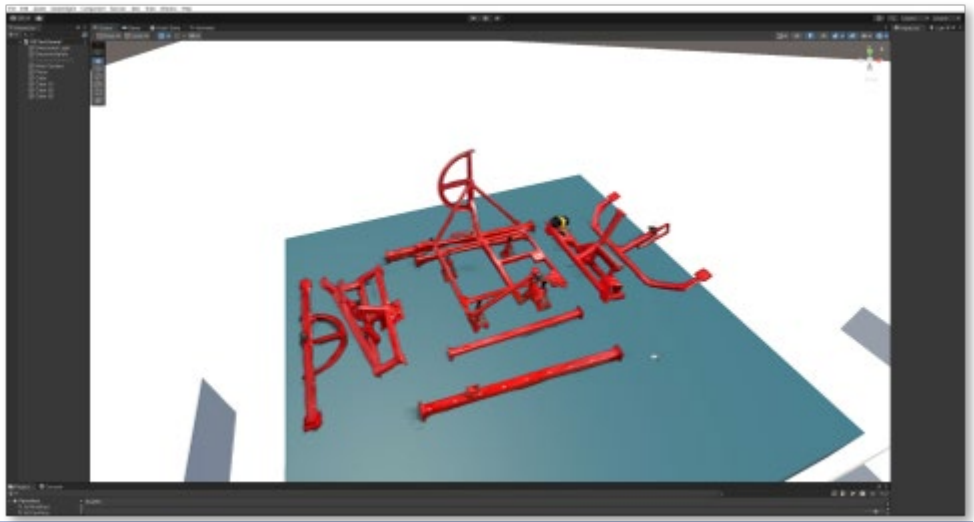
AFAMS Enabling the Future

- AFAMS is collaborating with a third-party vendor to scan the MTD Redbird Simulator system and its manuals in order to quickly and easily transform them into interactive virtual trainers.
- The project uses novel deep learning 3D reconstruction techniques to transform text and 2D images into hyper-realistic digital training content with immersive 3D visuals and personalized AI instruction.
- The end result will be an instructional web application that will help research staff sustain and operate the MTDs more effectively upon receipt.



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From Devices to Ecosystems

- Follow up with https://www.afams.af.mil/ for more information on MTD systems.
- The MTD initiative reflects AFAMS' commitment to extending the lifecycle of proven training assets.
- Now, we shift focus to how these and other technologies integrate into a broader, data-driven, competency-based training ecosystem.

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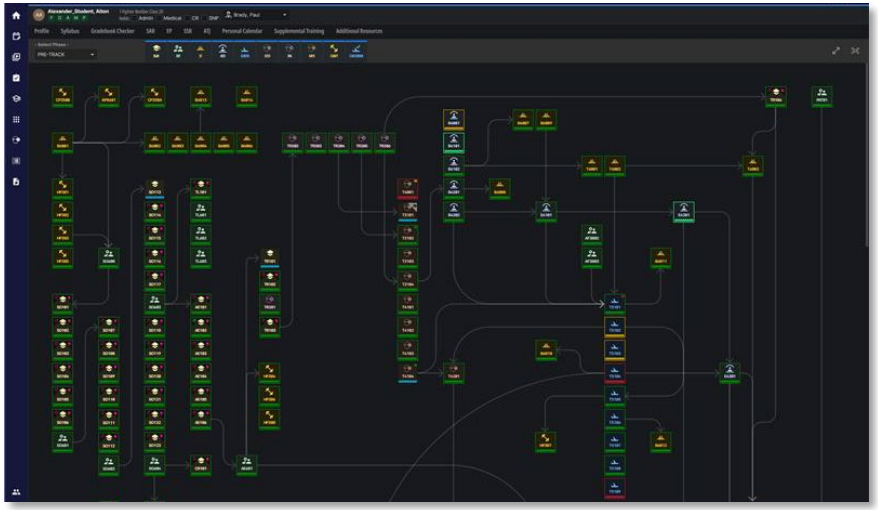
From PTN to FBF — The Evolution of Air Force Training

- PTN pioneered immersive, data-driven training but lacked scalable infrastructure.
- Pilot Training Transformation (PTT) institutionalized innovation but exposed integration gaps.
- FBF demands enterprise-grade systems to support competency-based, AI-enabled training.
- The shift from syllabus-based to outcomes-based training requires digital backbone support.
- These programs seeded the need for the capabilities now fielded across 19AF.



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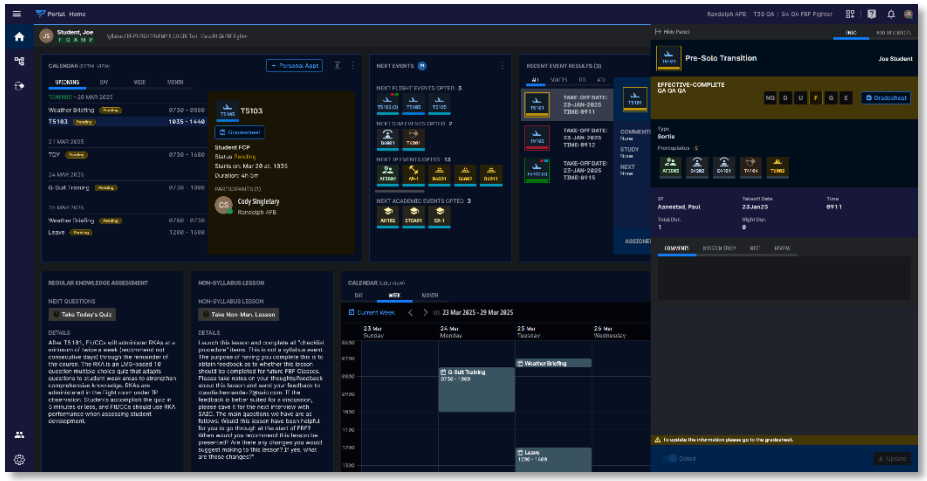
Infrastructure for Action — The Portal as the Digital Backbone

- Provides a unified interface for planning, scheduling, and performance tracking.
- Replaces fragmented legacy systems with a secure, cloud-native architecture.
- Enables real-time access to training data across roles and locations.
- Supports both flying and non-flying domains with modular extensibility.
- Fielded across multiple 19AF programs and validated in production.



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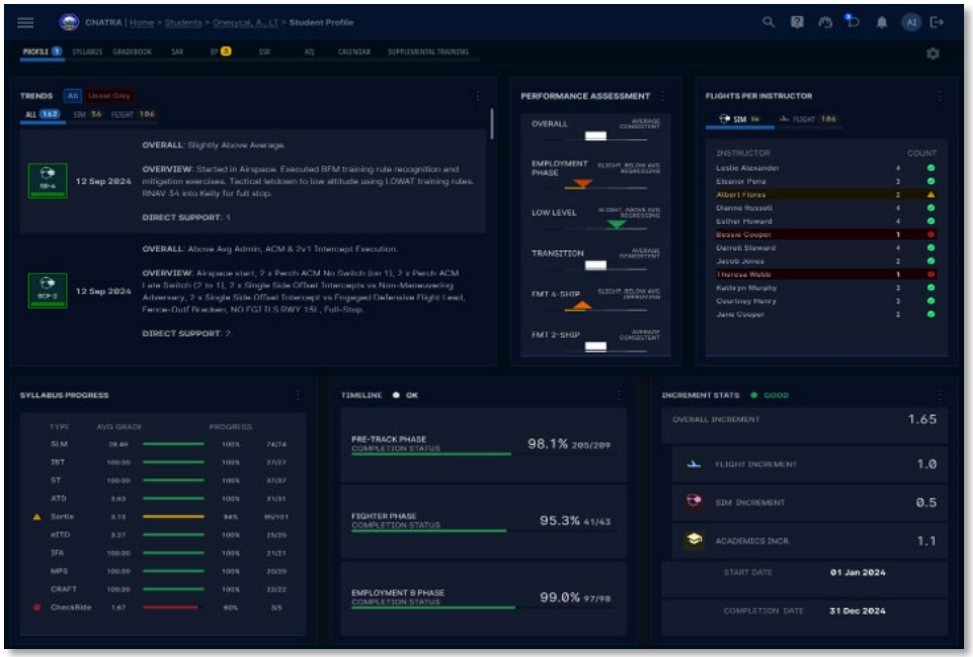
Competency Mapping in Action — Precision Over Prescription

- Maps performance at maneuver, task, and academic question level.
- Dynamically adjusts training paths based on learner progress.
- Enables targeted remediation and coaching to reduce negative training.
- Supports adaptive learning across modalities: live, virtual, constructive.
- Proven to reduce time-to-train and increase training ROI.



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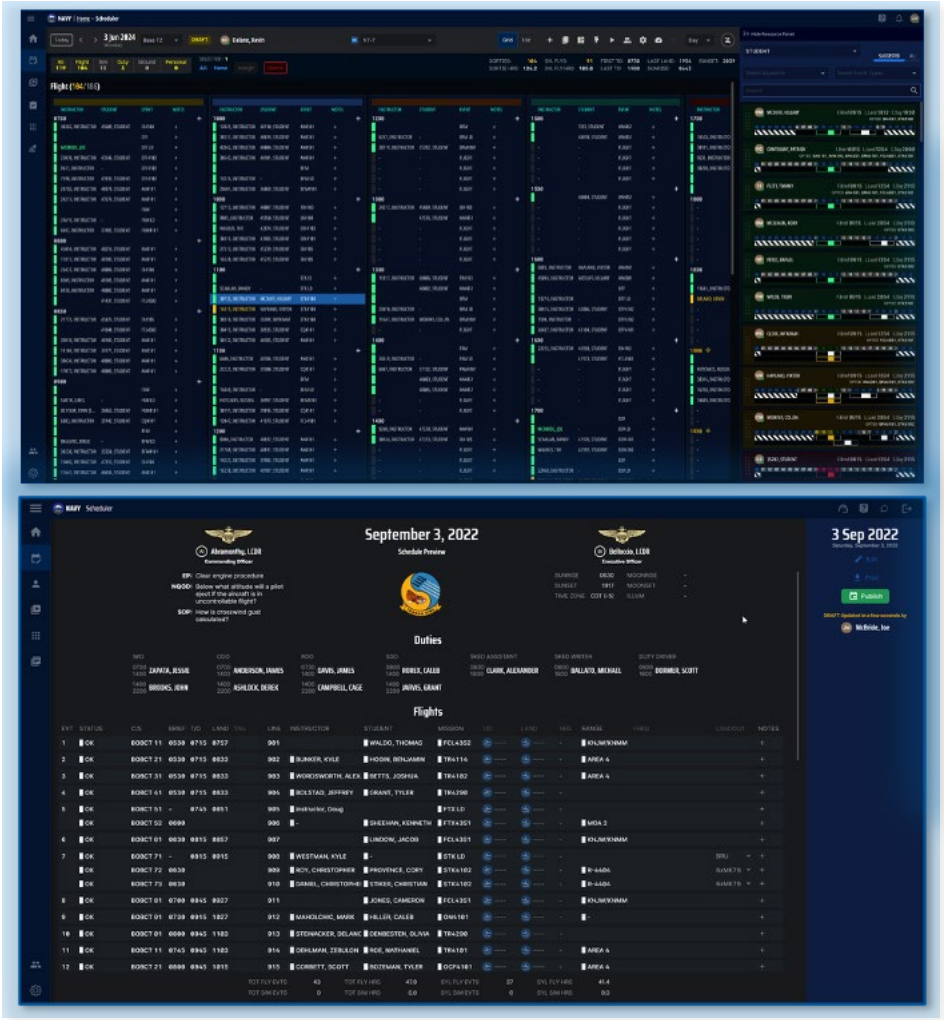
Automated Scheduling — Aligning Resources with Readiness

- Automates complex scheduling across students, instructors, and devices.
- Reduces instructor admin burden, freeing time for mission-focused training.
- Predictive planning aligns training with mission priorities and constraints.
- Supports real-time updates and contingency management.
- Used in 19AF flying training operations.



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Automated Optimization of Resources for Readiness

- Provides commanders and managers with real-time training status dashboards.
- Tracks qualification, readiness, and resource utilization metrics.
- Enables proactive intervention and resource reallocation.
- Supports enterprise-wide visibility across units and domains.
- Built-in analytics support both operational and strategic planning.

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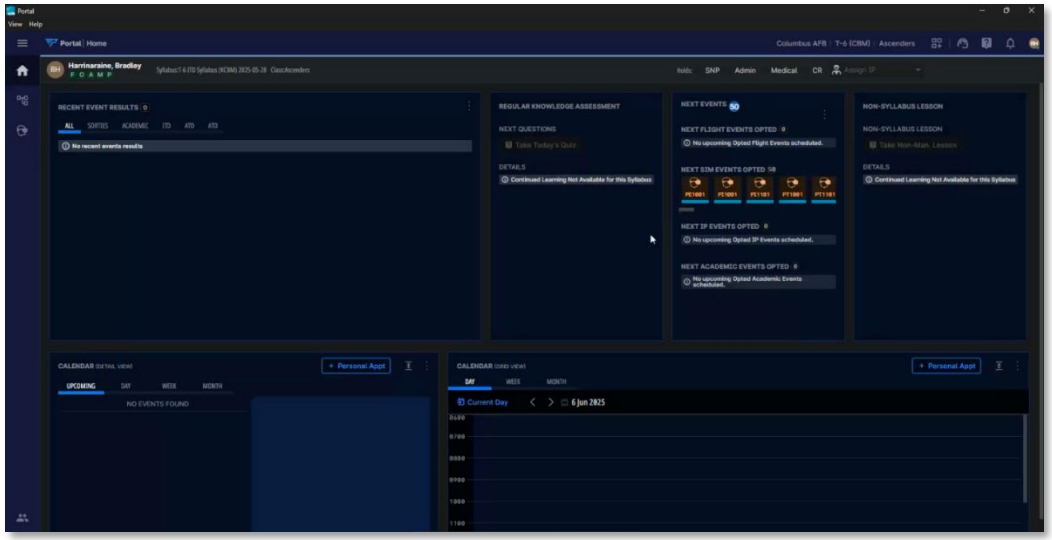
Third-Party Integration — A Platform, Not a Product

- PortalSDK architecture enables third-party training content integration.
- PII and compliance handled at platform level—no burden on developers.
- Third-party apps can submit partial xAPI statements without user IDs.
- AFAMS testing infrastructure ensures interoperability and performance.
- Enables a true ecosystem of training tools and content.



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Cybersecurity as an Enabler — Not a Roadblock

- Continuous ATO processes for both on-prem and cloud systems.
- Change management board ensures training impact is validated before rollout.
- MDM integration ensures compliance across all mobile endpoints.
- Proven ability to onboard new components and vendors without delay.
- Enables secure collaboration across government and industry teams.

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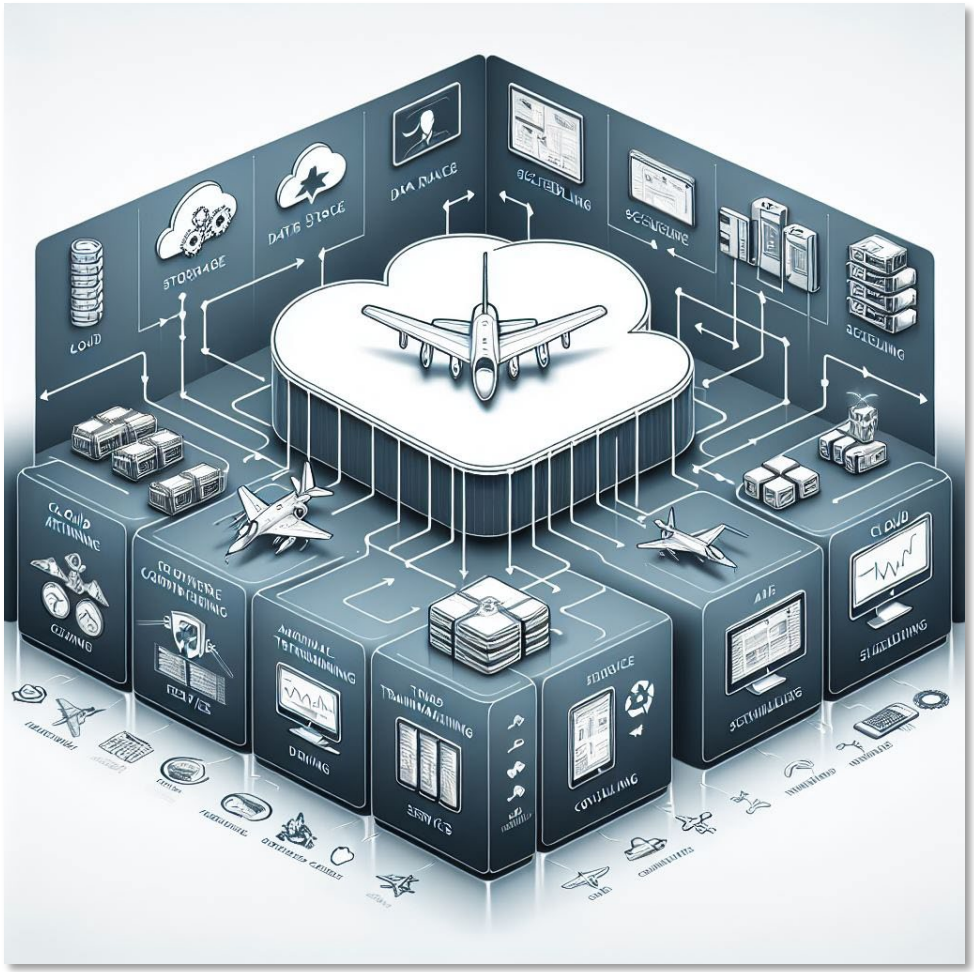
Cloud-Native by Design — Scalable, Compliant, Agile

- Multi-cloud heritage (GCP + Azure), now standardized on Azure Gov Cloud.
- Uses platform-as-a-service to reduce engineering and compliance overhead.
- Envision data fabric integration ensures data federation across USAF.
- Enables rapid scaling and onboarding of new capabilities.
- Supports both centralized and distributed training environments.



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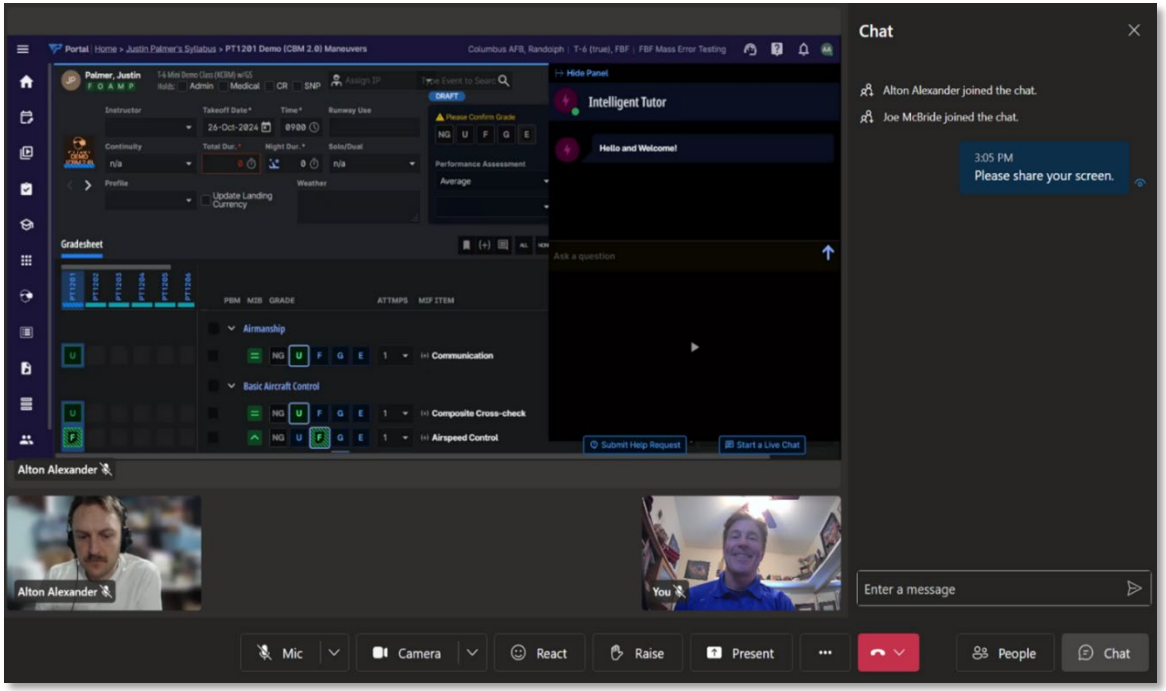
End User Adoption — From Resistance to Ownership

- Many units were accustomed to local innovation and autonomy.
- Agile development driven by feedback from field locations.
- Enterprise architecture designed to support—not replace—local needs.
- Demonstrated success in aligning top-down vision with bottom-up innovation.
- Field-tested across multiple units.



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The Road Ahead — Scaling Across Domains

- Many concepts in technology-enabled training are aspirational – this is real and functional.
- The same infrastructure supports flight, maintenance, cyber, and language training.
- Proven in production, ready for broader DoD adoption.
- Designed for scale, security, and adaptability across mission sets.
- Enables the shift from training systems to training ecosystems.
- The future of readiness is competency-based, AI-enabled, and data-driven.