AGILE COMBAT SUPPORT
DIRECTORATE

Simulators Division (AFLCMC/WNS) Update

3 May 2023

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Senior Materiel Leader
Simulator Division

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Recent Successes

AFLCMC – Providing the Warfighter's Edge

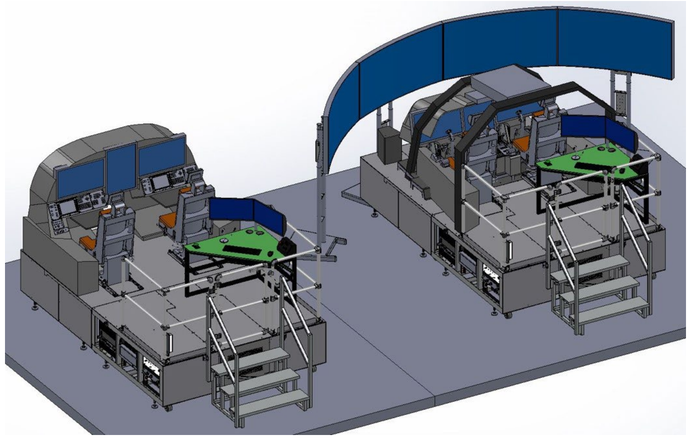
AFSOC ACTS – Lockheed Martin

JPATS T6 GBTS - DRG

SCARS DEVSECOPS Demonstration - CAE

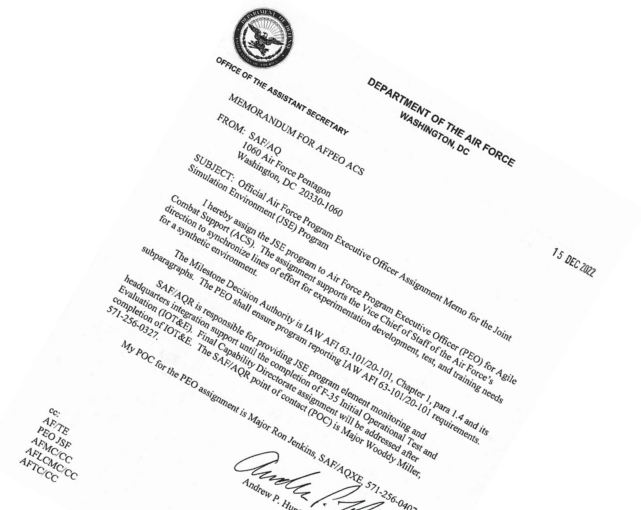
B-52 Notional MET– ASI

Man in the Loop Delivery and Installation


B-1 R-CPT Drawing - ASI

8,400 Training Events
26,635 Training Hours
1,800 Aircrews Trained
19,500 Personnel Trained

MAF DMO – HII
DMON – Northrop Grumman


DEPARTMENT OF THE AIR FORCE
WASHINGTON, DC

OFFICE OF THE ASSISTANT SECRETARY

15 DEC 2022

MEMORANDUM FOR AFPEO ACS

FROM: SAF/AQ
1060 Air Force Pentagon
Washington, DC 20330-1060

SUBJECT: Official Air Force Program Executive Officer Assignment Memo for the Joint Simulation Environment (JSE) Program

I hereby assign the JSE program to Air Force Program Executive Officer (PEO) for Agile Combat Support (ACS). The assignment supports the Vice Chief of Staff of the Air Force's direction to synchronize lines of effort for experimentation development, test, and training needs for a synthetic environment.

The Milestone Decision Authority is IAW AFI 63-101/20-101, Chapter 1, para 1.4 and its subparagraphs. The PEO shall ensure program reporting IAW AFI 63-101/20-101 requirements.

SAF/AQR is responsible for providing JSE program element monitoring and headquarters integration support until the completion of F-35 Initial Operational Test and Evaluation (IOT&E). Final Capability Directorate assignment will be addressed after completion of IOT&E. The SAF/AQR point of contact (POC) is Major Woody Miller, 571-256-0327.

My POC for the PEO assignment is Major Ron Jenkins, SAF/AQXE, 571-256-0407.

Andrew P. Hunter

cc:
AF/TE
PEO JSF
AFMC/CC
AFLCMC/CC
AFTC/CC

JSE PEO Appointment

Simulators Snapshot

AFLCMC… Providing the Warfighter's Edge

75 Programs

supporting

9 MAJCOMS

ANG

29 Program Offices

Navy

20 Countries

575+ Members Strong

2,300+ Training Devices

Over 93% of the Air Force inventory

FY22

653 Contract Actions

$3.4B Active Year (includes $1.5B for FMS)

667 Funding Documents

Air Combat Command
Air Education & Training Command
Air Force Global Strike Command
Air Force Reserve Command
Air Force Special Operations Command
Air Mobility Command
U.S. Air Forces in Europe
Pacific Air Forces
Air Force Materiel Command

Simulators Division Leadership

AFLCMC… Providing the Warfighter's Edge

DIVISION CHIEF / SENIOR MATERIEL LEADER
Col C, 'Matt' Ryan

DEPUTY DIVISION CHIEF
Penny Mason

CHIEF OF ENGINEERING (EN)
Kelly Navarra

DEPUTY
Jeff Pfledderer

CHIEF OF FINANCE (FM)
Kristen O'Sullivan

DEPUTY
Bruce Comer

CHIEF OF LOGISTICS (LG)
Richard Swain

DEPUTY
Christal Green

CHIEF OF CONTRACTING (PK)
Christine Diehl

DEPUTY
Abby Hoefler

AIR COMBAT
Branch Chief
Stefan Craw

DEPUTY
Michael Hayes

EN – Susan Schemmel/ Djauna Prewitt/Barry Green
FM – Eric Gilley
LG – Michael Baldwin
PK – Abby Hoefler

AWACS/Attack
Maj Anthony Maxie

Bombers/F-15
Vacant

AIR MOBILITY
Branch Chief
Monika Mapley

DEPUTY
Rex Easley

EN – Barry Green / Gernai Bledsoe
FM – Beth Truesdale
LG – Christal Green
PK – Richard Fries

Airlift
Holly Hogsett

Tankers
Rex Easley (Acting)

SPECIAL OPS & AETC
Branch Chief
Lt Col Abigail Ono

DEPUTY
Lt Col Blake Bradford

EN – Brian Woehrman / Greg Enochian
FM – Josh Elliott
LG – Tonita Davis
PK – Shane Hemmerich

Special OPS
Lt Col Blake Bradford

Air Education
Vacant

Innovation Cell
Douglas Patton

OPERATIONAL TRAINING INFRASTRUCTURE
Branch Chief
Lt Col Drew Frazier

EN – Tom Casey/ Mike Baker
FM – Steve Heyl
LG – Tim Jurgens
PK – Shane Hemmerich

Distributed Training Systems
Lt Col Bert Uhler

Common Architecture & Standards
Scott Poznanski

Cybersecurity
Gary Coe

OPERATIONAL TRAINING ENVIRONMENT
Branch Chief
Lt Col John Kovacic

DEPUTY
Johnny Clark

EN – TBD
FM – TBD
LG – TBD
PK – TBD

Joint Simulation Environment
Johnny Clark

FMS
Branch Chief
Doug Rogers

EN – Terri McBeth
FM – Eric Ellsworth
LG – Robert Hemmerly
PK – Michael Carbone

Fighter Programs
Tanya Hopson

Airlift / Tanker Programs
Vacant

New Business
Jesse Dewberry

ANALYSIS & INTEGRATION
Branch Chief
Scott Cummings

EN – Jeff Pfledderer
FM – Vacant
LG – Vacant
PK – Vacant
T&E – Pat McLeod

Program Control
Nathan Stevens

Division Action Group
Kara Truelove

As of May 23

Guiding Efforts

- **Implementing Simulator Common Architecture Requirements and Standards (SCARS)**
- **Developing, fielding and sustaining a common synthetic environment (Joint Simulation Environment)**
- **Increasing the capability and interoperability of distributed training networks**
- **Ensuring sufficient concurrency, fidelity, connectivity, and recapitalization of training systems**

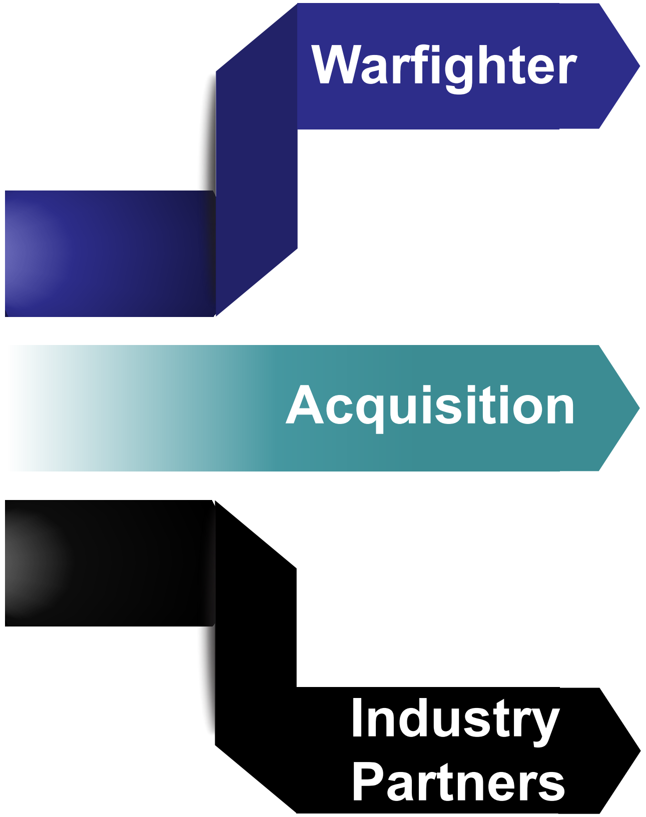
SCARS Overview

SCARS provides an Enterprise Solution

An enterprise solution must be capable of spanning multiple generations of training systems

Key Attributes

- Common Design
- Common Computational Tech Stack
- Single USAF-Wide Ops Center
- User Development Toolkit



Warfighter

- Increase in speed to the field
- Higher fidelity of models
- Improved interoperability
- Reduced cyber risk

Acquisition

- Increase in speed to the field
- Reduced acquisition cost
- Lower life cycle cost
- Reduced Intellectual Property
- Less contract actions

Industry Partners

- Voice in standards
- Opportunity to develop common models
- Higher reuse/less development risk for affiliates, pathfinders

SCARS Standards

On Premise Equipment (OPE) Basic Integration

Specifications for interfacing a training system with SCARS OPE

Common Security Controls

Specifications for inheriting security controls from SCARS Security Operations Center to a training system integrated with an OPE

Certification Process

Processes for verifying and sustaining compliance with SCARS Standards

Application Certification

Processes for certifying and migrating simulation applications to SCARS OPE

Data

Specifications for standard data formats for interoperability, including Geospatial Data Specification (GDS) and the MBSE Style Guide

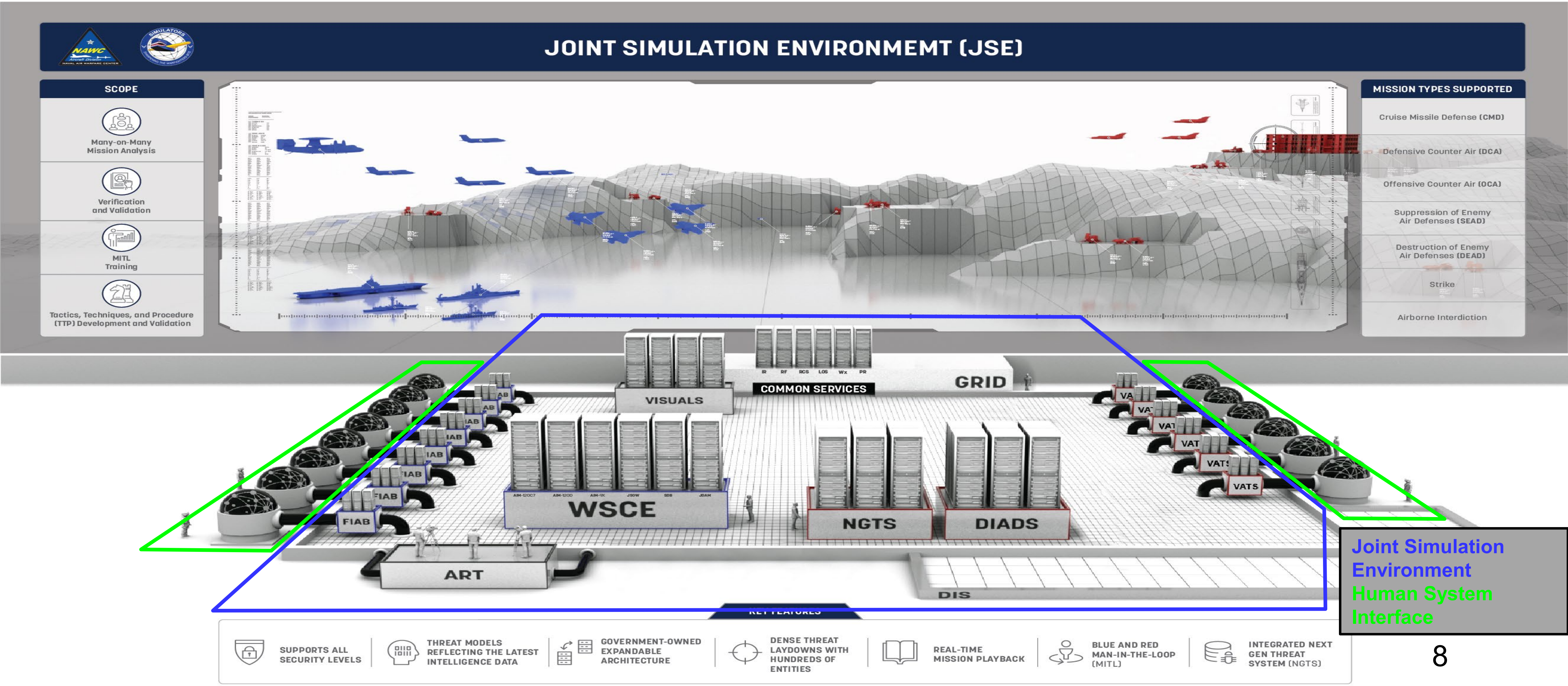
DevSecOps

Processes for development and sustainment of software on SCARS OPE, using a CI/CD pipeline

To request access to the SCARS Standards, email aflcmc.wns.scarsstandards@us.af.mil

JSE OV-1

AFLCMC… Providing the Warfighter's Edge


NAWC
JOINT SIMULATION ENVIRONMEMT (JSE)
SCOPE
Many-on-Many Mission Analysis
Verification and Validation
MITL Training
Tactics, Techniques, and Procedure (TTP) Development and Validation
MISSION TYPES SUPPORTED
Cruise Missile Defense (CMD)
Defensive Counter Air (DCA)
Offensive Counter Air (OCA)
Suppression of Enemy Air Defenses (SEAD)
Destruction of Enemy Air Defenses (DEAD)
Strike
Airborne Interdiction
VISUALS
IR
RF
RCS
LOS
Wx
PR
COMMON SERVICES
GRID
FIAB
VAT
VATS
AIM-120C7
AIM-120D
AIM-9X
JSOW
SDB
JDAM
WSCE
NGTS
DIADS
ART
DIS
KEY FEATURES
SUPPORTS ALL SECURITY LEVELS
THREAT MODELS REFLECTING THE LATEST INTELLIGENCE DATA
GOVERNMENT-OWNED EXPANDABLE ARCHITECTURE
DENSE THREAT LAYDOWNS WITH HUNDREDS OF ENTITIES
REAL-TIME MISSION PLAYBACK
BLUE AND RED MAN-IN-THE-LOOP (MITL)
INTEGRATED NEXT GEN THREAT SYSTEM (NGTS)

Joint Simulation Environment

Human System Interface

JSE Core Components

AFLCMC… Providing the Warfighter's Edge

GRID: Global Reusable Interface Domain

Communicates physics-based interactions and propagation effects to all entities

- WNS: Provides Systems Engineering
- Funding Source: 50/50 USAF/USN
- Integrator: NAWCAD

Common Services

Services that generate the physics-based data that describe the synthetic environment. Critical to providing a "fair fight" (e.g., RF, IR, weather, etc.)

WNS: Provides Systems Engineering

Funding Source: 50/50 USAF/USN

Integrator: NAWCAD / 445 TS / SWEGs

NGTS: Next Generation Threat System

Synthetic environment generator, models hundreds of threat and friendly constructives. Hosts high fidelity MSIC and NASIC models

- WNS: Provides Systems Engineering
- Funding Source: 50/50 USAF/USN
- Integrator: NAWCAD / 445 TS / 31 CTS

DIADS: Digital Integrated Air Defense Simulation

C3, data flows/links, and operator displays of a threat IADS, early warning and height finder radars

- WNS: Provides Systems Engineering
- Funding Source: 50/50 USAF/USN
- Integrator: NAWCAD/412 EWG

WSCE: Weapon Server Common Environment

Real-time, high-fidelity kinetic weapon fly outs and Blue counter-measures

- WNS: Provides Systems Engineering
- Funding Source: 50/50 USAF/USN
- Integrator: NAWCAD / 445 TS

VATS: Virtual Air Threats

Authoritative Piloted Air Threat using NASIC TMAP models

- WNS: Provides Systems Engineering
- Funding Source: 50/50
- Integrator: XA

ART: Analysis & Reporting Tool

Enables near real-time and post mission analysis of simulation generated data

- WNS: Provides Systems Engineering
- Funding Source: 50/50 USAF/USN
- Integrator: NAWCAD

FIAB: Fighter In A Box

Rehosted OFP representing a Blue System of Interest (e.g., F-22, B-21, etc.)

- WNS: Manages fielding & sustainment
- Funding Source: Platform SPO or WNS
- Integrator: NAWCAD / 445 TS / SWEGS / XA

HSI: Human Systems Interface

Domes, visual systems, cockpits, etc.

- WNS: Manages fielding & sustainment
- Funding Source: WNS
- Integrator: WNS

Enterprise Developer: ☐ Industry ■ NAWCAD ▨ 412th EWG 🟦 XA 🟪 SWEG 🟥 INTEL

JSE

JSE Ecosystem

T2's Tidbits

- **Interest in common/enterprise solutions**
- **Continuing to move toward digital materiel management**
- **CPAR Ratings for Regulatory will be Satisfactory on new contracts**
- **Cyber and ATO's are becoming high priority and increasingly important**
- **TSA IV award is coming**
- **Emphasis on test standardization and thoroughness**

Challenges

AFLCMC… Providing the Warfighter's Edge

- **Budget increases are not keeping up with inflation**
- **Calendar years 2024-2026 will be Source Selection heavy**
- **Shrinking budgets = cannot fund everything**

Key Take-Aways

AFLCMC… Providing the Warfighter's Edge

- **We value your partnership and appreciate your feedback as we work through execution challenges**
- **JSE is an Air Force priority program to field the synthetic test and training environment of the future...AF vision is ubiquitous use**
- **Strategic goal to characterize the cost/benefit of full (Stage 3) SCARS implementation as soon as possible**
- **SCARS can make training more affordable with common services/apps, and common h/w baseline**
- **Opportunity for light-weight sims to make training more affordable (family of targeted sims, JSE sites, etc.)**
- **Need your help with End-of-life software**

SIMULATORS
SHARPENING THE WARFIGHTERS BITE

Simulators Program Execution

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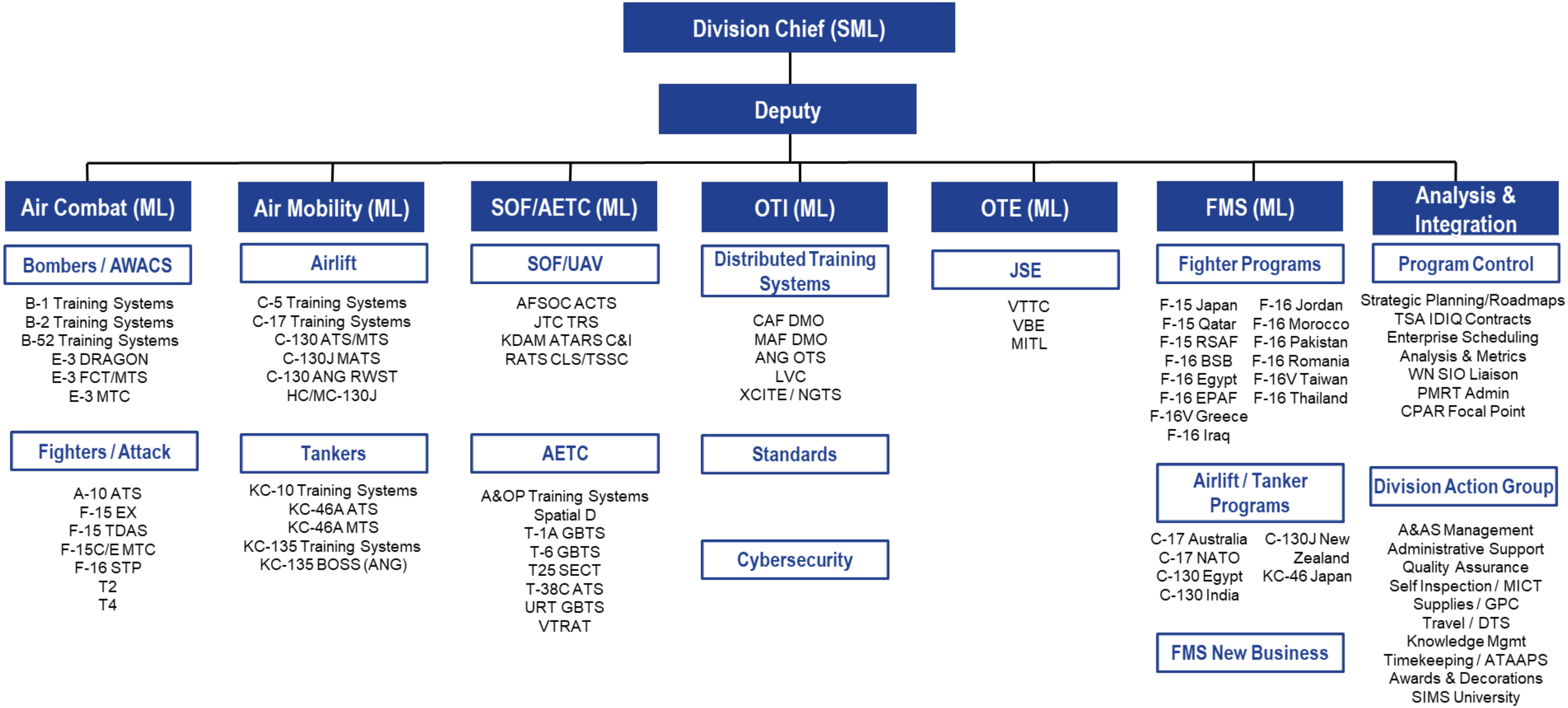

Division Chief (SML)

Deputy

Air Combat (ML)

Bombers / AWACS

B-1 Training Systems
B-2 Training Systems
B-52 Training Systems
E-3 DRAGON
E-3 FCT/MTS
E-3 MTC

Fighters / Attack

A-10 ATS
F-15 EX
F-15 TDAS
F-15C/E MTC
F-16 STP
T2
T4

Air Mobility (ML)

Airlift

C-5 Training Systems
C-17 Training Systems
C-130 ATS/MTS
C-130J MATS
C-130 ANG RWST
HC/MC-130J

Tankers

KC-10 Training Systems
KC-46A ATS
KC-46A MTS
KC-135 Training Systems
KC-135 BOSS (ANG)

SOF/AETC (ML)

SOF/UAV

AFSOC ACTS
JTC TRS
KDAM ATARS C&I
RATS CLS/TSSC

AETC

A&OP Training Systems
Spatial D
T-1A GBTS
T-6 GBTS
T25 SECT
T-38C ATS
URT GBTS
VTRAT

OTI (ML)

Distributed Training Systems

CAF DMO
MAF DMO
ANG OTS
LVC
XCITE / NGTS

Standards

Cybersecurity

OTE (ML)

JSE

VTTC
VBE
MITL

FMS (ML)

Fighter Programs

F-15 Japan
F-15 Qatar
F-15 RSAF
F-16 BSB
F-16 Egypt
F-16 EPAF
F-16V Greece
F-16 Iraq

F-16 Jordan
F-16 Morocco
F-16 Pakistan
F-16 Romania
F-16V Taiwan
F-16 Thailand

Airlift / Tanker Programs

C-17 Australia
C-17 NATO
C-130 Egypt
C-130 India

C-130J New Zealand
KC-46 Japan

FMS New Business

Analysis & Integration

Program Control

Strategic Planning/Roadmaps
TSA IDIQ Contracts
Enterprise Scheduling
Analysis & Metrics
WN SIO Liaison
PMRT Admin
CPAR Focal Point

Division Action Group

A&AS Management
Administrative Support
Quality Assurance
Self Inspection / MICT
Supplies / GPC
Travel / DTS
Knowledge Mgmt
Timekeeping / ATAAPS
Awards & Decorations
SIMS University