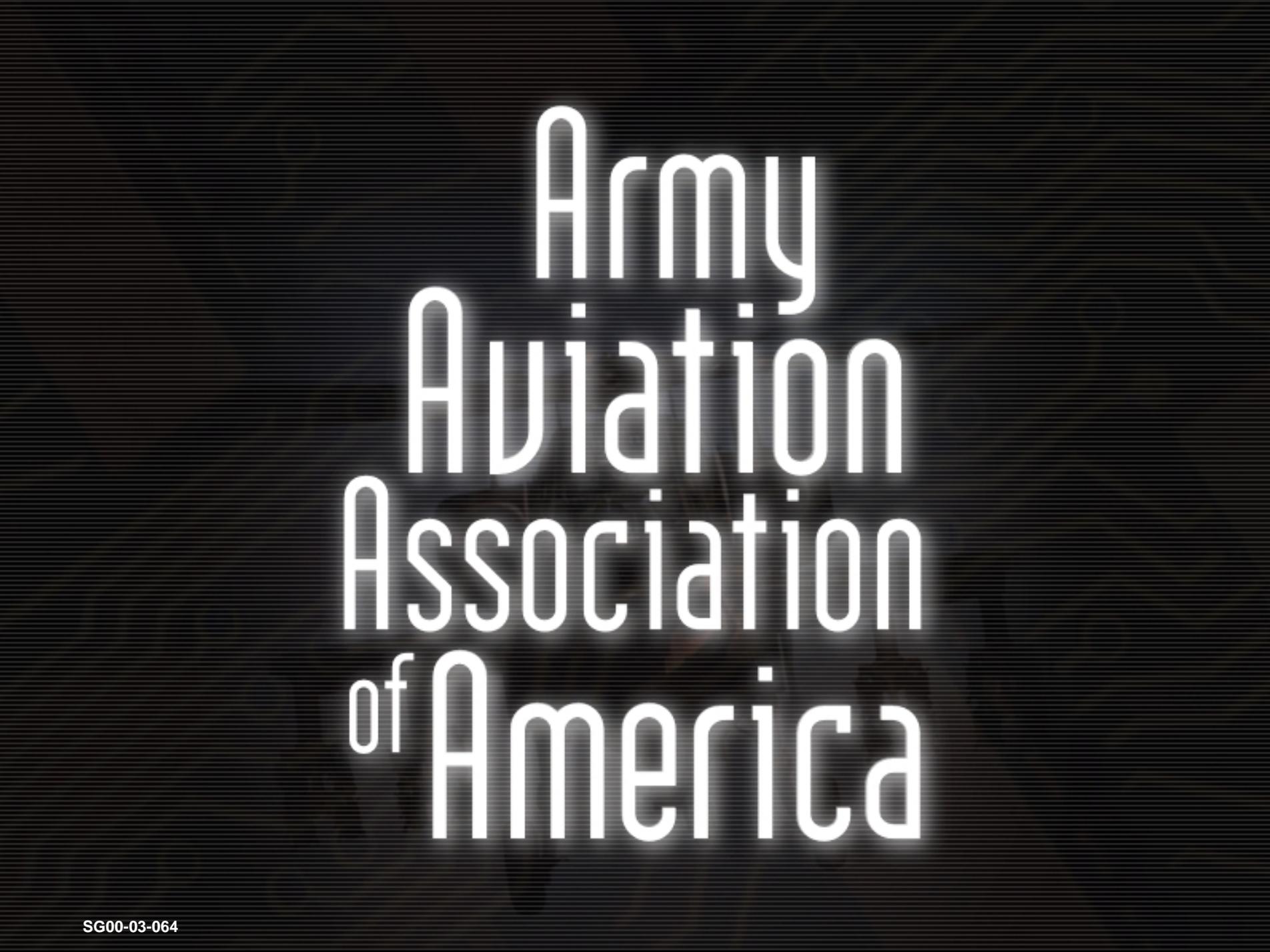


U.S. Army Simulation, Training and Instrumentation Command



BG William L. Bond

Commanding General



Army
Aviation
Association
of America

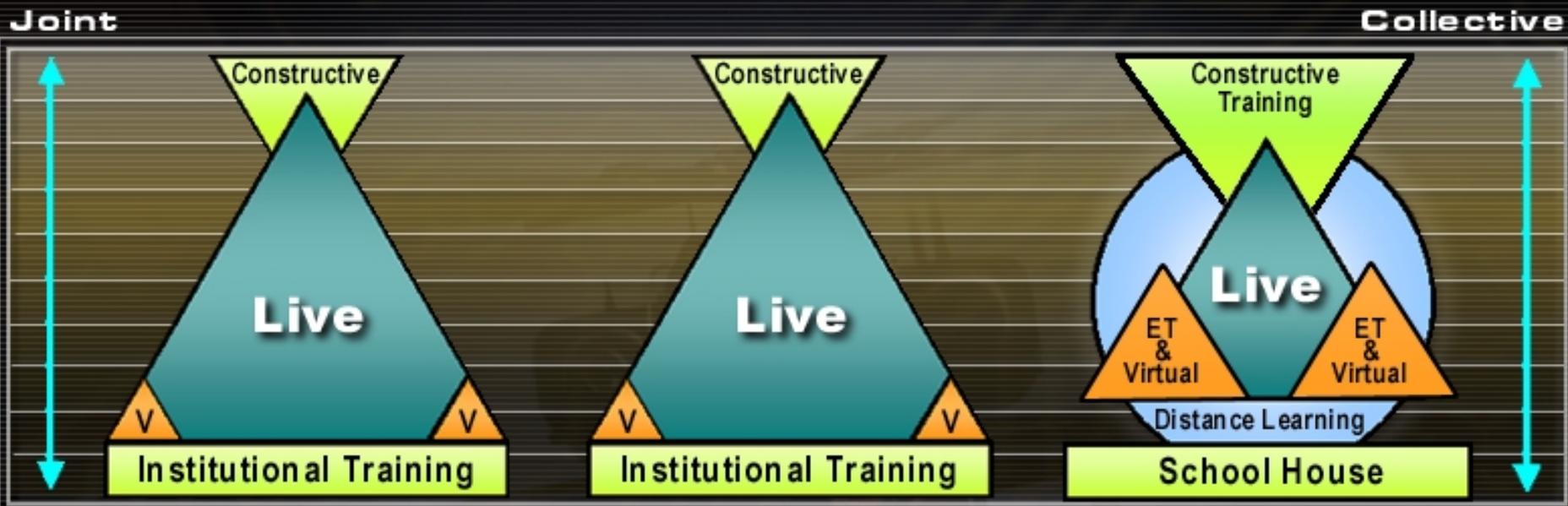
INTEGRATED TRAINING AND SIMULATION

aaaa
2000



THE 2ND TRAINING REVOLUTION

What is the right blend of training domains?



Section Individual

Yesterday → **Today** → **Tomorrow**

- * Just in Case Training
- * Robust Deployments
- * Permissive OPTEMPO
- * Limited Virtual Simulators

- * Just in Time Training
- * Improved Virtual Simulators
- * OPTEMPO Constrained

- * On Demand Training
- * Constrained Live Environment
- * Reduced OPTEMPO Using
- * Embedded Training
- * Distance Learning Benefits





THE MISTAKE OF NOT SUPPORTING THE WARFIGHTER

Continue the 8 year fall behind of Simulator Concurrency

Visual Systems: Late 1970's

Computer Systems: Early 1980's

Instructor Operations: Late 1970's

Reduced Combat Readiness through inability to conduct training:

"High, Hot and Heavy"

Incompatible Simulator Cockpits with Aircraft: Negative Habit Transfer

No Geo-specific Training Capability

Reduced Flying-Hour Programs - Reduced Junior Leader Readiness

Not Building our Warfighting Future

Stress of the Dynamic Cockpit Environment (Situational Awareness)

"We must make them sweat in Simulators"

Need to teach our Junior Warfighters - "What Right Looks Like"



DAY-TO-DAY OPERATIONS AT THE BATTALION LEVEL

Dramatic Decrease in Aviator Experience:

	1977	1993	Present
Hours Out of Flight School:	175	160	149
Hours Per Year at the Unit:	300	225	120
IP Flight Hours:	3500-6000	2500-3500	2000-2500

101st Conducting Initial Training Platoon

Increase Restrictions on Tactics and Procedures in the actual aircraft:

Sustainment: Current - NOT proficient

Complex Emergencies and "Edge of Envelope Flying"

Tactical Environment Training Restrictions

No Hydraulics "Off" Training in aircraft in flight

- Germany Night Restriction

No Engine "Off" Training in aircraft in flight (Engine Failure)

700 vs 701 Engines (Checklist, EP's, and Instrumentation)

Aircraft Crew Coordination: SAFETY IMPACT

Not Repeatable, Controllable, and "Injectable" System

Contributing Factor in Most Accidents

Not Getting the Job Done: OPTEMPO Compromised





AVIATION TRAINING

OLD



AH64

Stand Alone

UH60

OH 58

CH47

NEW



Reconfigurable

Common Terrain Data

Image Generators

Leverage AVCATT

Significantly
Less Logistics
Cost

Easy to Upgrade

Less Cost to Upgrade

Goal



**Achieve Collective,
Combined Arms
and Joint Training**



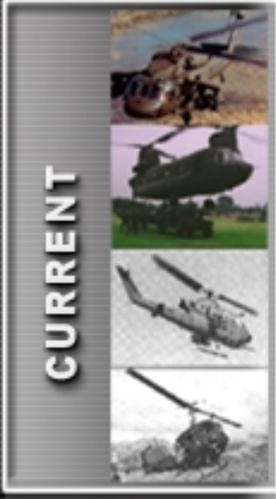
AVIATION TRAINING

Achieve Aircraft Concurrency

Employ Common:
✓Image Generator
✓Database

Achieve Local/ Longhaul Networking

Achieve Collective Combined Arms & Joint Training



STAND ALONES

IMPROVED

- Mission Planning
- Mission Rehearsal
- Readiness



IMPACTS

- Reduced WCLS
- Easy to Upgrade
- Interoperable

Individual Training - Nov,99 —————> 19 Months - June, 07 —————> Collective Training





MERGED REQUIREMENTS

FY99 FY00 FY01 FY02 FY03 FY04 FY05 FY06 FY07

MILES 2000 & TWGGS / PGS

OneTESS R & D



Live

MILES II / SAWE / Lt PDDS / AGES

NTC OIS & CMTc LF / OIS

CTIA R & D



FTI / HITS & MOUT OIS

JRTC & CMTc OIS

Virtual

CCTT

SE Core

AVCATT



System TADSS

Constructive

ModSAF

CCTT SAF

Janus, Spectrum & BBS

DBST

CBS & TACSIM

DCST & CSSTSS



OneSAF



WARSIM / WIM





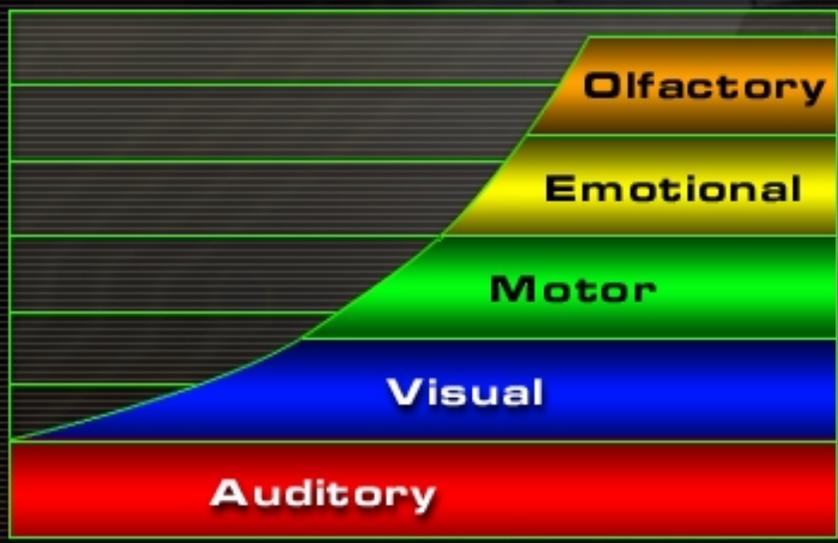
OBSERVATIONS ABOUT LEARNING . . .

Learning %

How We Learn...

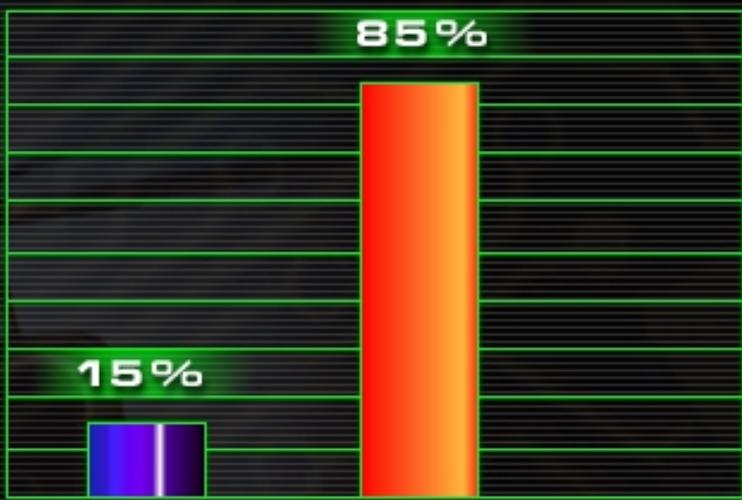
How We Learn...

Experiential



Senses

100
90
80
70
60
50
40
30
20
10
0



Methodology



Technical



Experiential

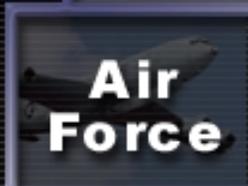
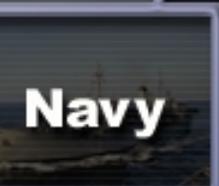




**PROTOCOLS – INTEGRATION – LINKING –
LEVERAGING – STANDARDS**

“... There are no systems that fight alone on the modern battlefield, therefore, we must train as we fight...”

Joint Constructive Training
Joint Simulations Systems (JSIMS)

 Air Force	 Army	 Coast Guard	 Marines	 Navy
--	---	---	--	---

LIVE	VIRTUAL	CONSTRUCTIVE
-------------	----------------	---------------------

Collective Training Force on Force Training Centers Individual - Crew Training	Equipping Assets for Live Training Computer Based Training Networked Training	Warfighting Experiments Simulation Based Acquisition Digital Training Library Embedded Training
--	---	--

Logistics Enhancements in Real Time





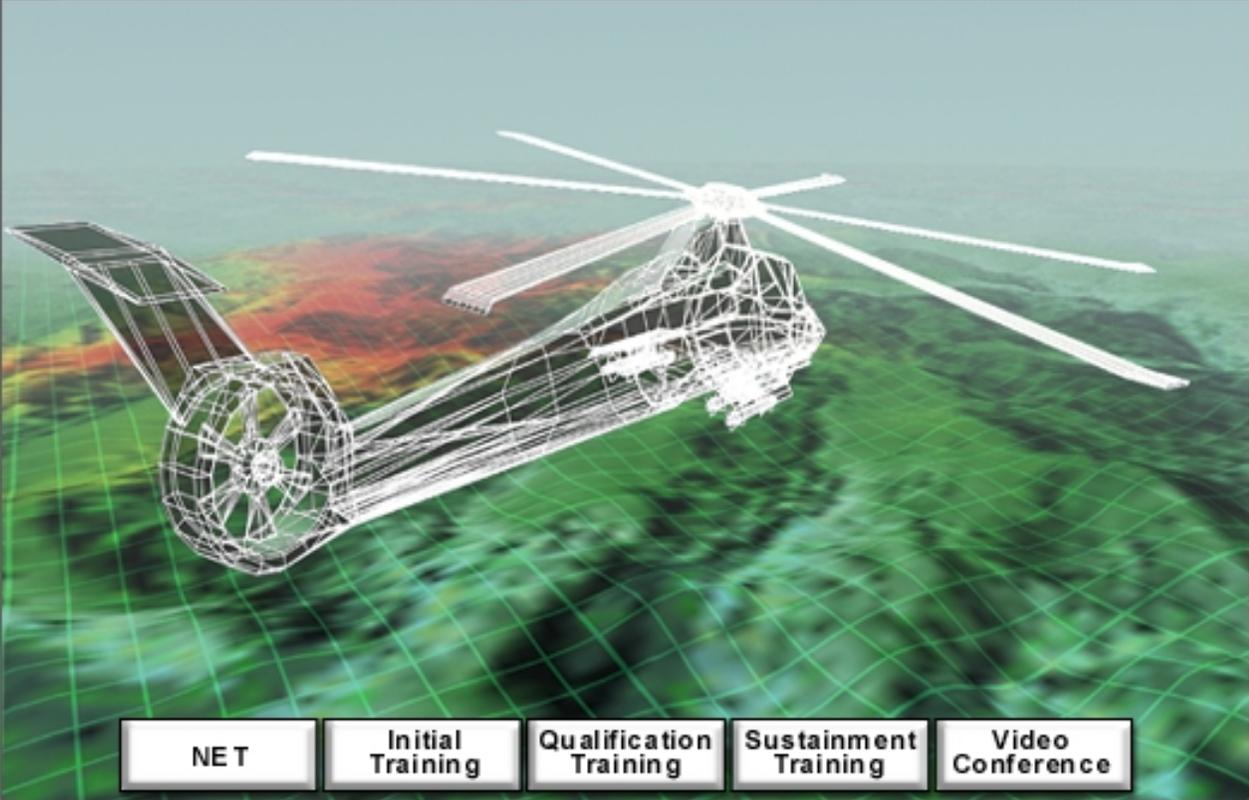
EVOLVING THE WAY WE TRAIN

Internet CATIA - Netscape

File Edit View Go Communicator Help

Back Forward Reload Home Search Guide Print Security Stop Netscape

Bookmarks Location: <http://stricom.army.mil/live/virtual/constructive/so on> What's Related



CATT CORE

OneSAF

WARSIM 2000

Combat Training Centers

Software Library

Fixed Tactical Internet

Terrain Databases

Janes Games

Novalogic Games

Maintenance

Enterprise Support

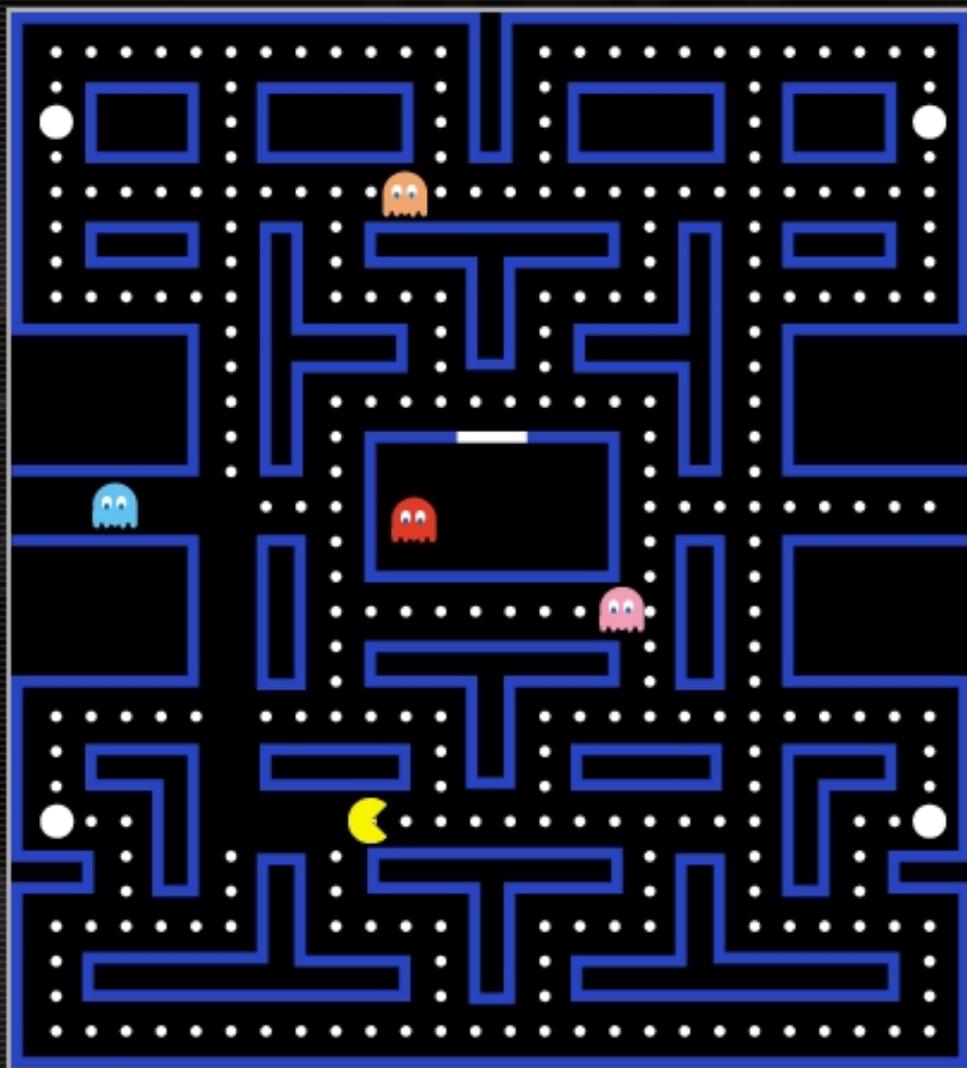
NET Initial Training Qualification Training Sustainment Training Video Conference

Document: Done



***IT'S NOT PACMAN
ANYMORE***

PAC-MAN



Office Wars Video Here



CHALLENGES

Army OPTEMPO

Lack of Spectrum and Space

Complex Weapons Systems and Ammunition

Complex Missions (Urban Warfare)

Complex Organizations (Joint Task Forces)

Contingency Orientation (No More Fulda Gaps)

New Methods of War (Information Attch/Denial)

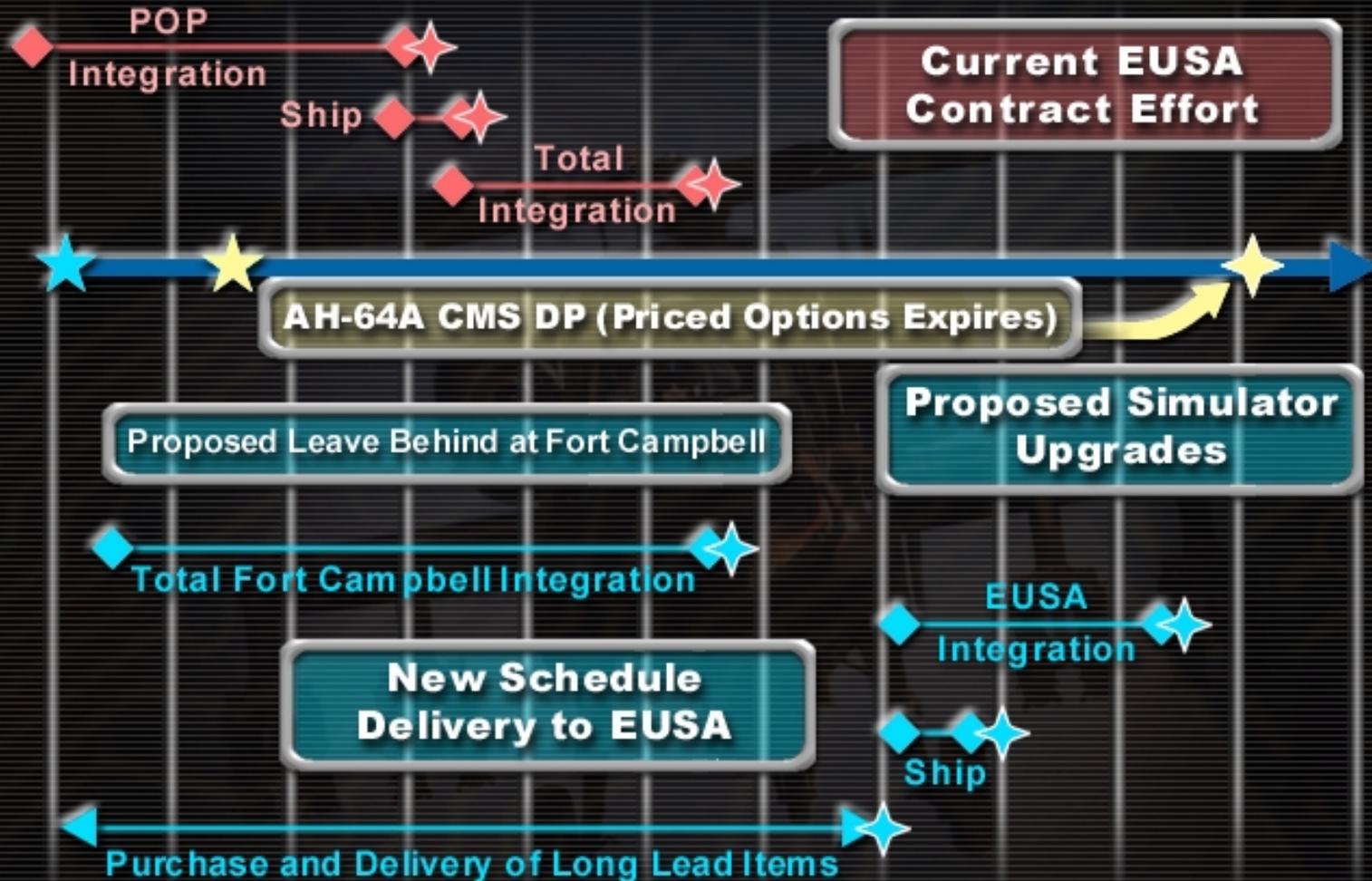


DECISION POINTS AND TIMELINE

2000

2001

FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC JAN





A SYSTEM TO SUPPORT THE WARFIGHTER

Warfighter

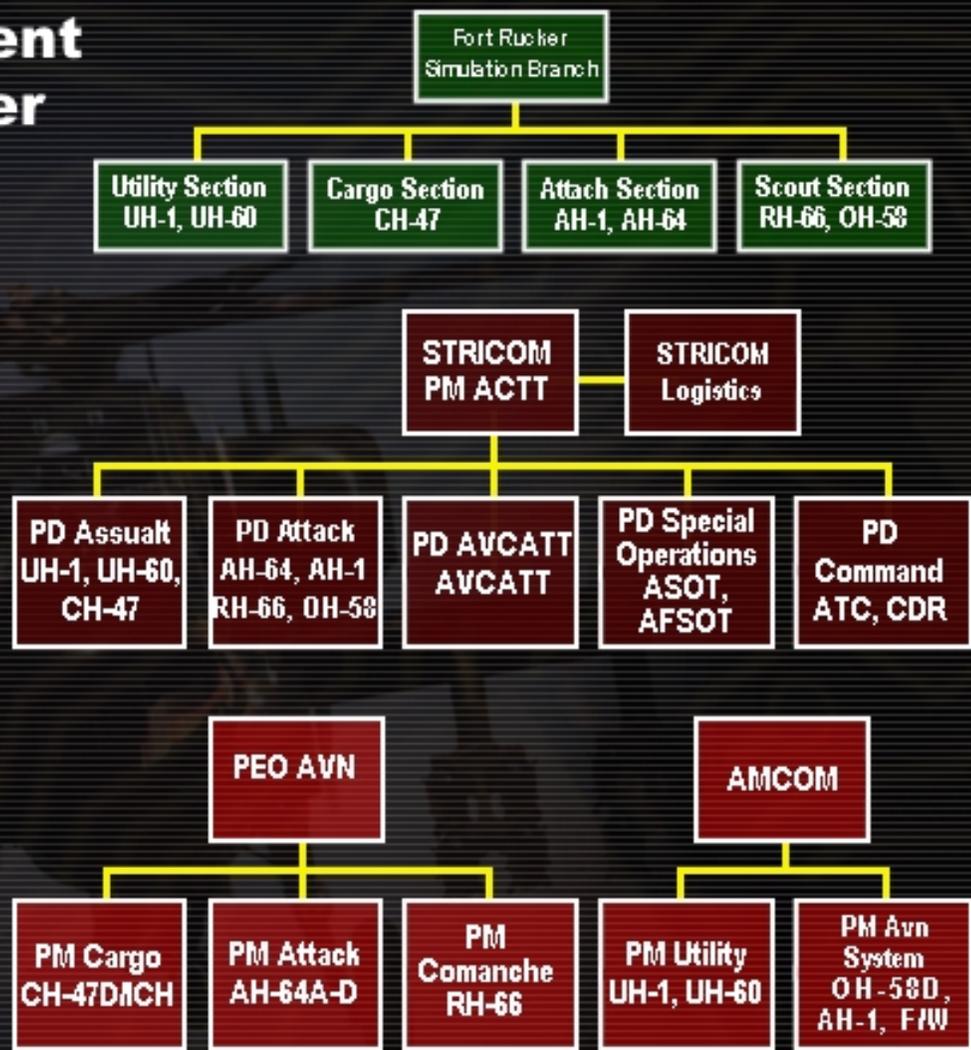
**Requirement
Ft. Rucker**



**Aircraft
PM**

STRICOM

**"We Must Begin
with the End in Mind"**





SUMMARY

Improved Situational Awareness

- **Unexpected Events**
- **Realistic and Repeatable**

GEO Specific Training / Mission Rehearsal

- **Environmental Training: "High, Hot & Heavy"**
- **Multiple and Complex Procedures / Events**

Go Beyond Training Restrictions

- **Realistic Weapons**

Teach What "Right" Looks Like

- **Create Experienced Decision Makers**

**Success
in the
Battlefield**

ACCIDENTS

READINESS





VISION

To create virtual environments so immersive that the physical, mental and emotional experience is so exhilarating that aviators would rather fly in the simulator than the actual plane.