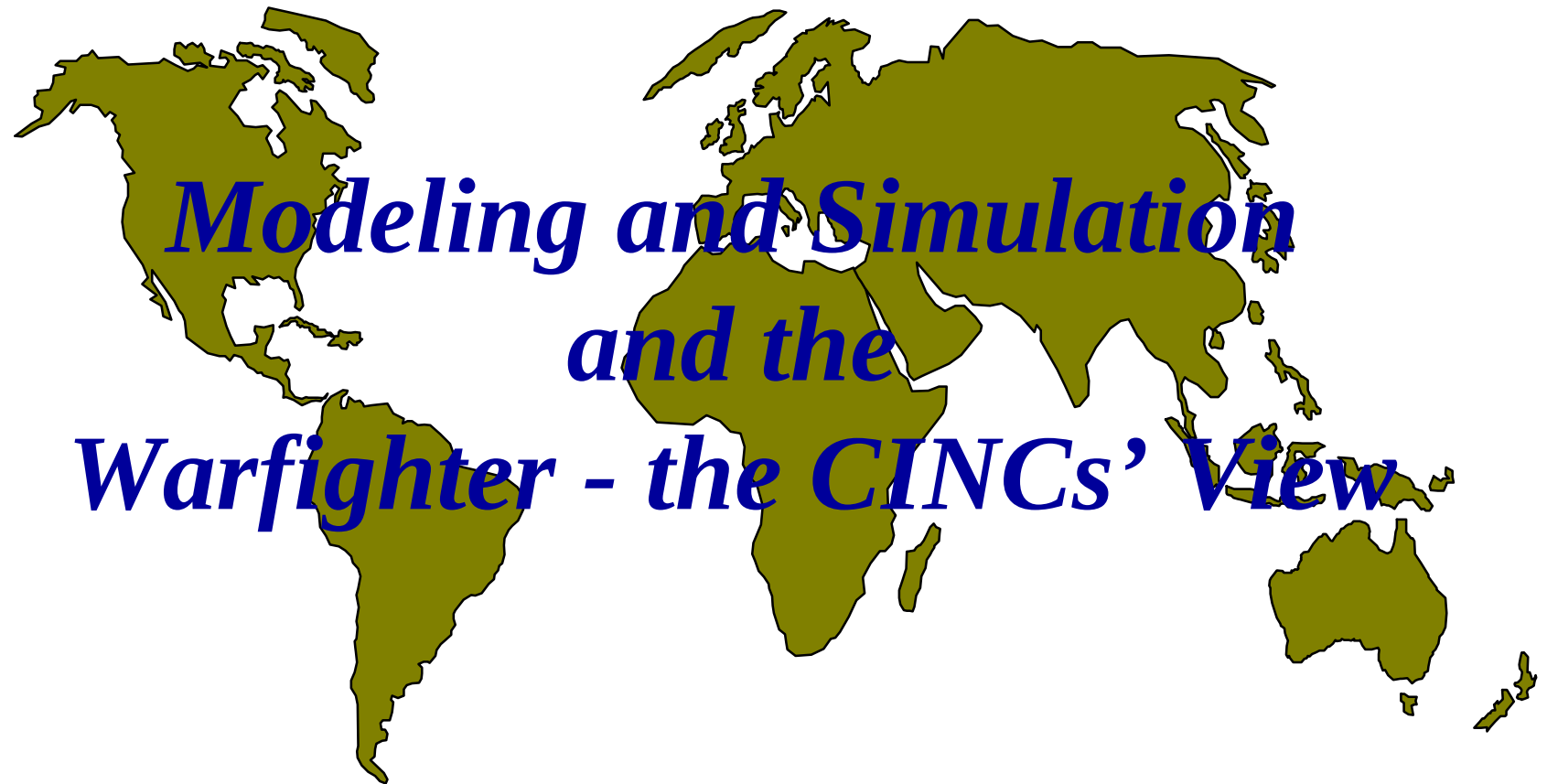




The U.S. Atlantic Command

DMSO Industry Days '99



CAPT Bill Molloy
JWFC / JW500
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USACOM Mission

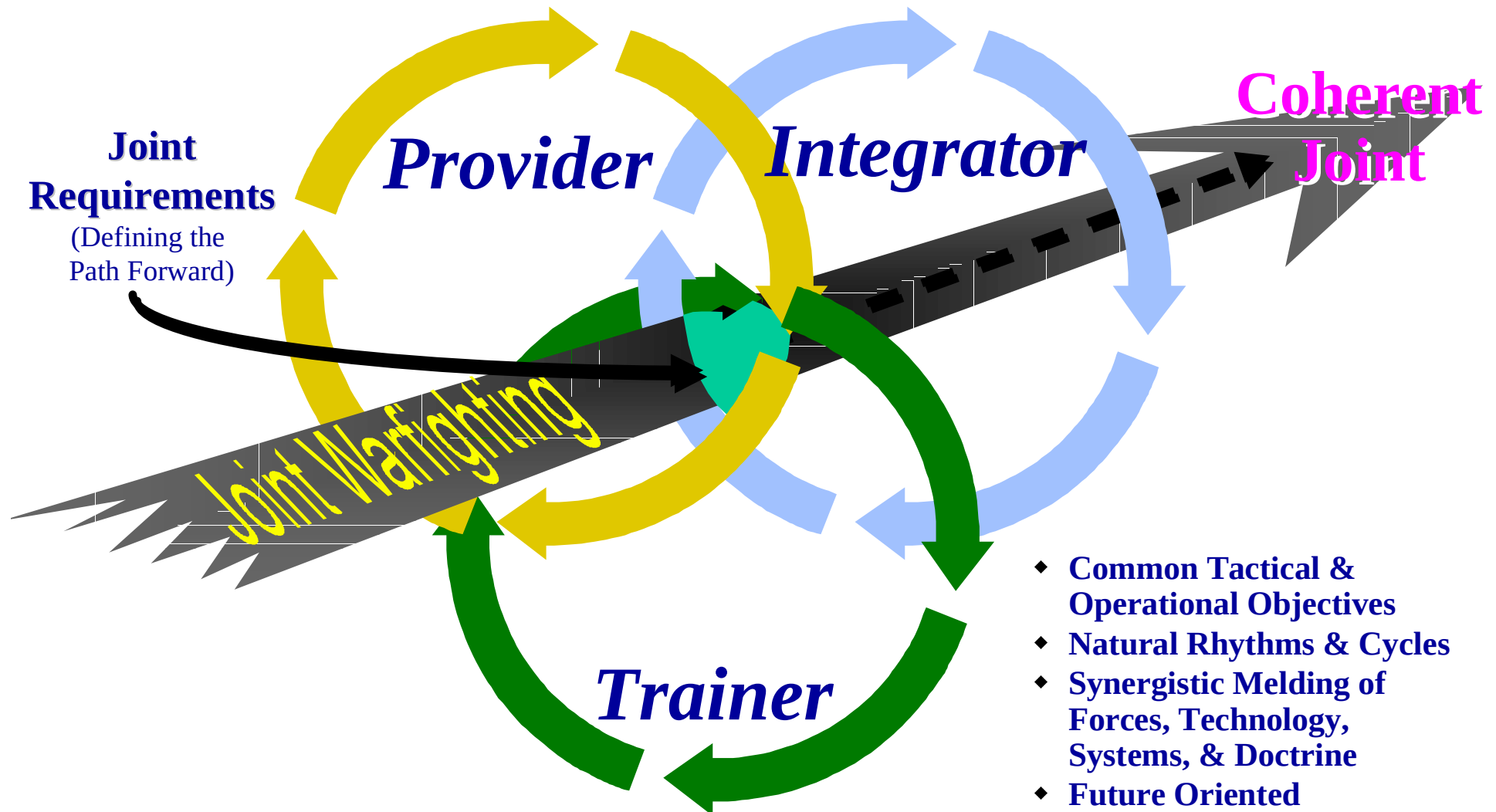
M&S and the Warfighter- the CINCs' View

USACOM maximizes America's present and future military capabilities through joint training, total force integration, and providing ready CONUS-based forces to support other CINCs, the Atlantic Theater, and domestic requirements.



Concept of Operations

M&S and the Warfighter- the CINCs' View





USACOM M&S Issues

M&S and the Warfighter- the CINCs' View

- **Joint Training**
 - **Models/tools (JSIMS, JTC, JTLS, JCATS, JIDPS, JEMP)**
 - **Distributed Joint Training**
- **Joint Experimentation**
- **Joint Warfare Analysis**
- **Future M&S Challenges**



Joint Training Mission

M&S and the Warfighter- the CINCs' View

Support joint and multinational training and exercises focused on commanders, staffs, and component forces, assist the CJCS, CINCs, and Service Chiefs in their preparation for joint and combined operations, and facilitate the conceptualization, development, and assessment of joint doctrine.



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USACOM Joint Warfighting Center

M&S and the Warfighter- the CINCs' View

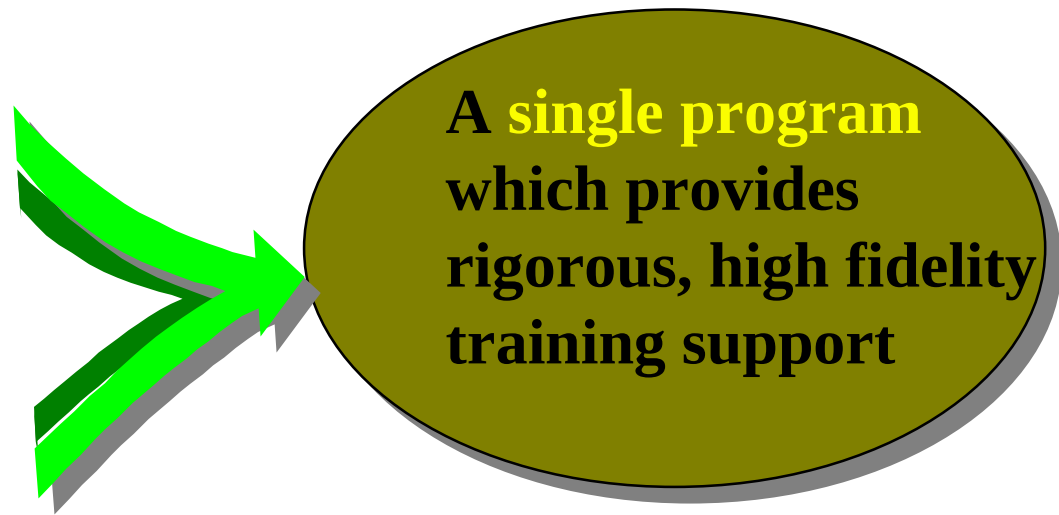
Joint Force Trainer



**USACOM J7/JTASC @
Suffolk**



JWFC @ Ft. Monroe



**Providing maximum support to
CINCs' training programs**

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What We Provide

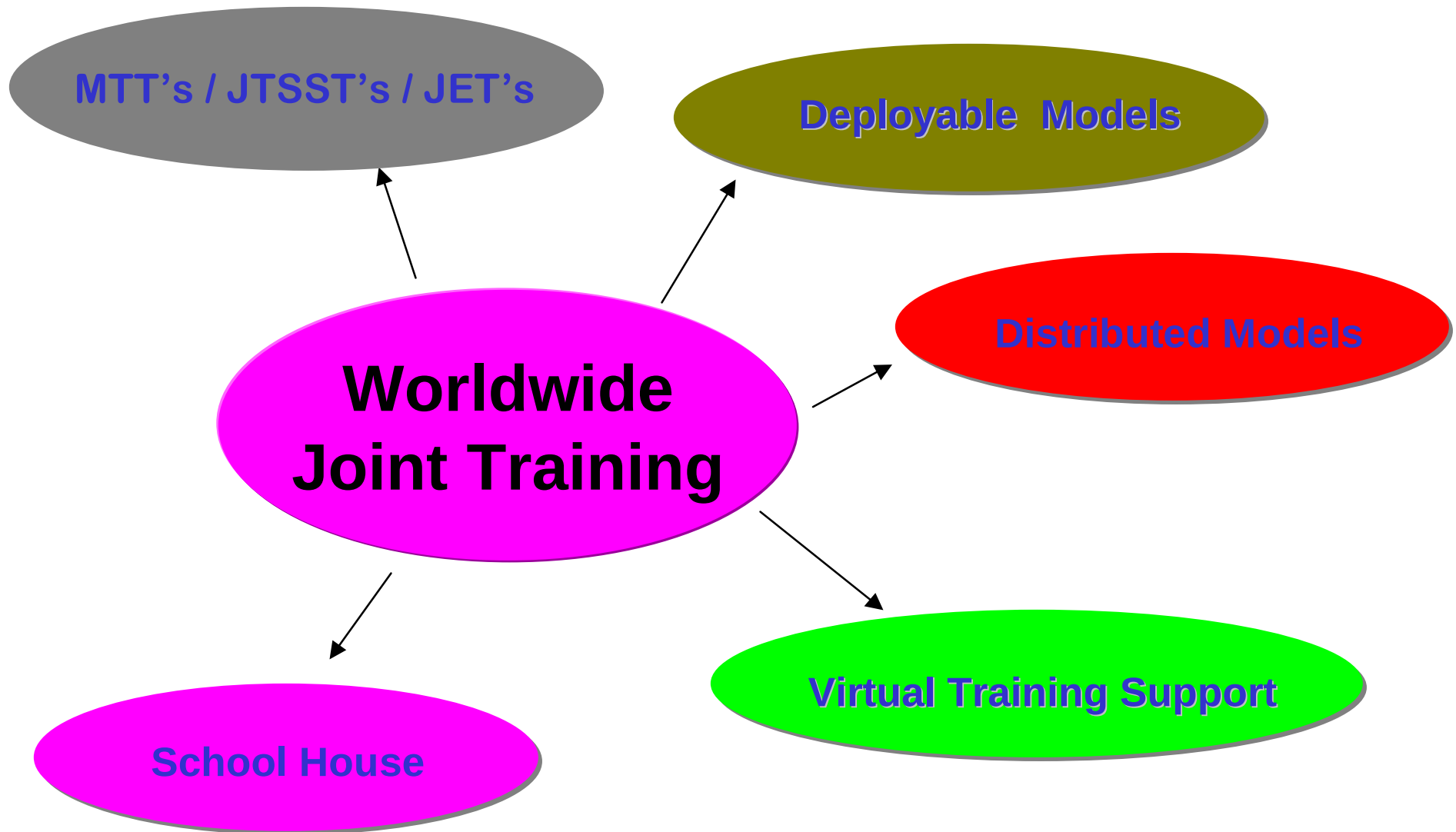
M&S and the Warfighter- the CINCs' View

- **Joint Training System Support Teams (JTSST's)**
 - **JTS Overviews/Phase Expertise**
 - **Assist with JMETL Development/Refinement**
 - **Assist in JTP Development**
- **Joint Exercise Teams (JET's)**
 - **Full Package Support - “Cradle to Grave”**
- **Mobile Training Teams (MTT's)**
 - **Academic and/or Seminar Training**
 - **Exercise-Related (Customer Needs Focused)**
 - **Non Event-Related**



How We Get the Job Done

M&S and the Warfighter- the CINCs' View





M&S Issue Areas - Joint Training

M&S and the Warfighter- the CINCs' View

- **JSIMS**
 - It's our future
 - Support to testing and IOC
 - Non-combat areas (e.g., logistics, intelligence, information operations)
- **JTC**
 - Required until JSIMS IOC is reached
 - C4I systems interface maintenance
 - Reliance on special models (e.g., MUSE, JSS) and significant scripting to fill shortfalls
- **JTLS and JCATS; JIDPS and JEMP**
 - Increasing user base
 - Entire joint training spectrum support



Distributed Joint Training

M&S and the Warfighter- the CINCs' View

- **Allows more units to play from home station, thereby:**
 - **Reducing OPTEMPO/PERSTEMPO**
 - **Reducing TAD/travel costs**
 - **Increasing the likelihood that players will use their go-to-war systems**
 - **Making participation more likely due to ease of participation**
- **Fuertes Defensas Example**



Fuertes Defensas 98/99



M&S and the Warfighter- the CINCs' View

- **One exercise, four training requirements**
 - Supported CINC training by USACOM: SOUTHCOM
 - JTF training by USACOM: XVIII ABN Corps
 - JTF functional component training by USACOM / Battle Command Training Program (BCTP): XVIII ABN Corps (WARFIGHTER)
 - BCTP assessed Service component as Army Forces (ARFOR) HQ
- Joint Training Confederation of models, distributed to CINC, JTF, and component headquarters
- COA analysis, Crisis Action and Execution Phases (II/III)
- It worked. We are planning/units are asking for more just like it!

Greater efficiency through multi-echelon training!

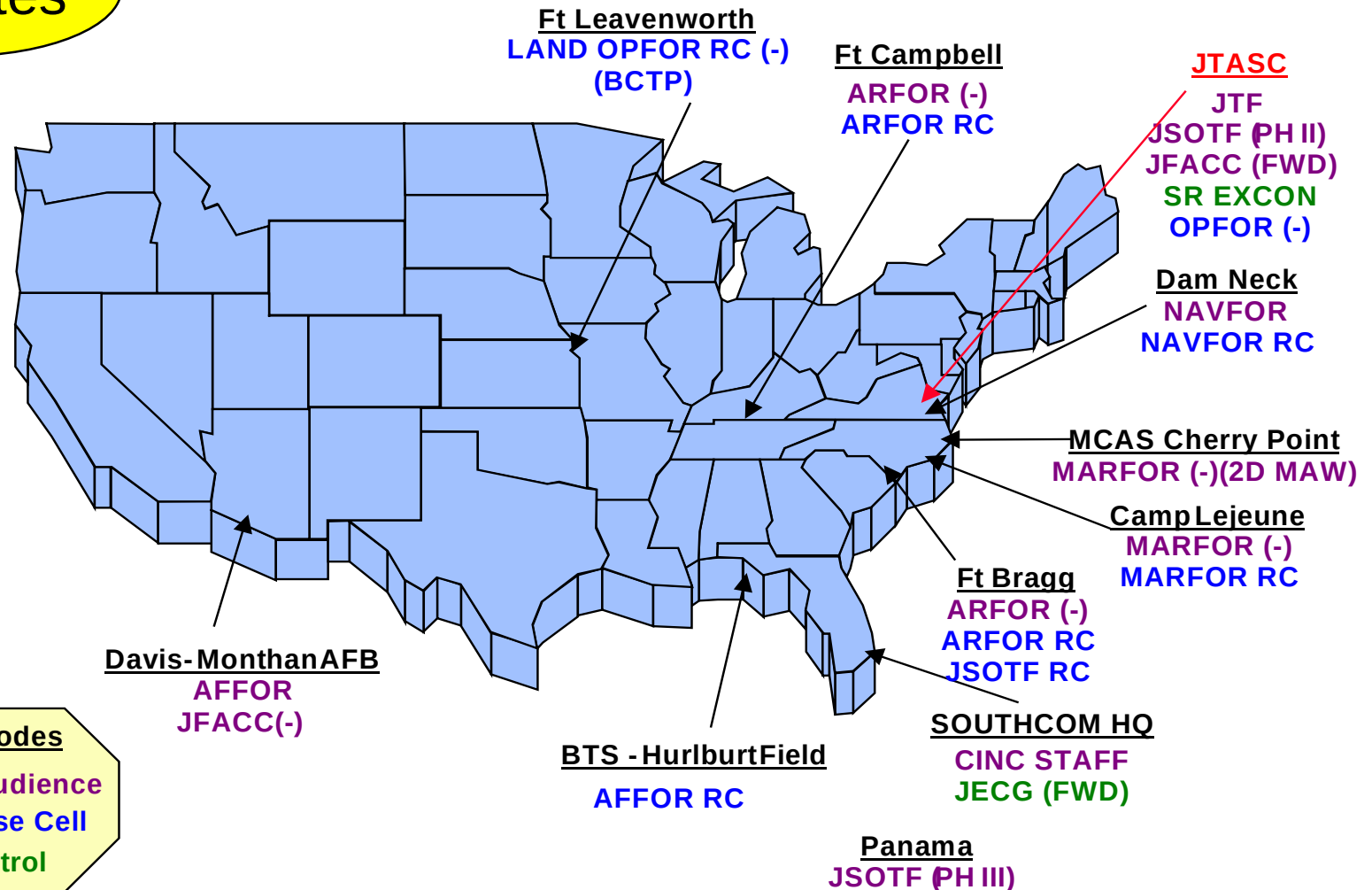


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Fuertes Defensas (FD) 98/99 Site Map

M&S and the Warfighter- the CINCs' View

11 sites



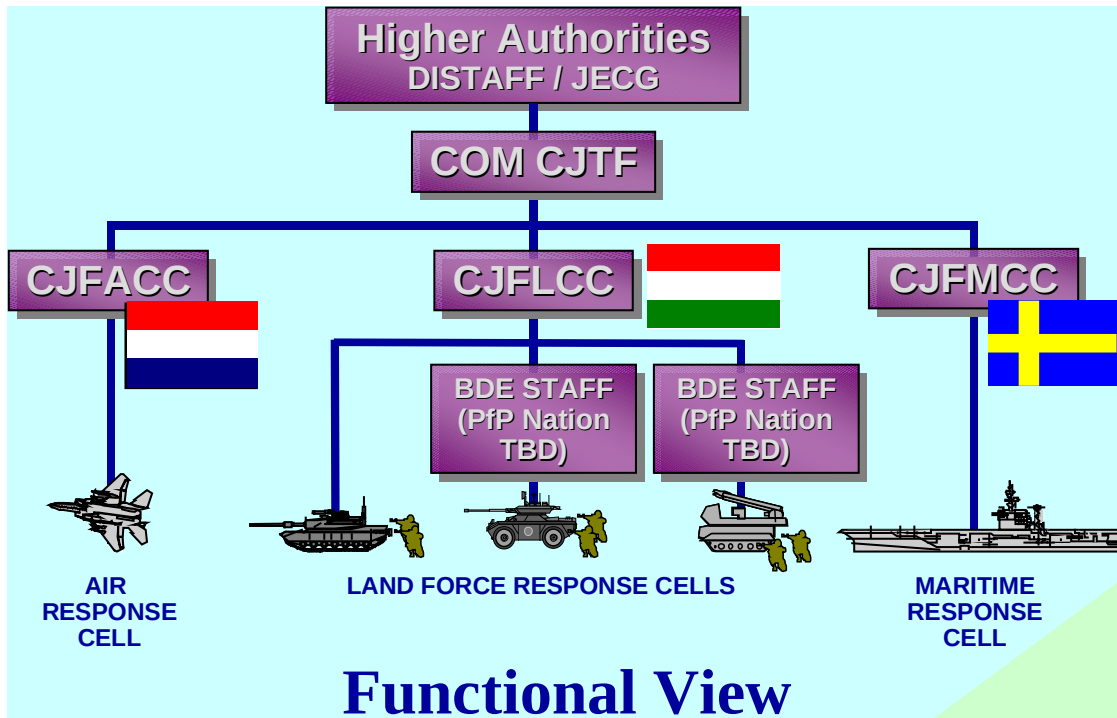
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PfP Simulation Center Network Demo

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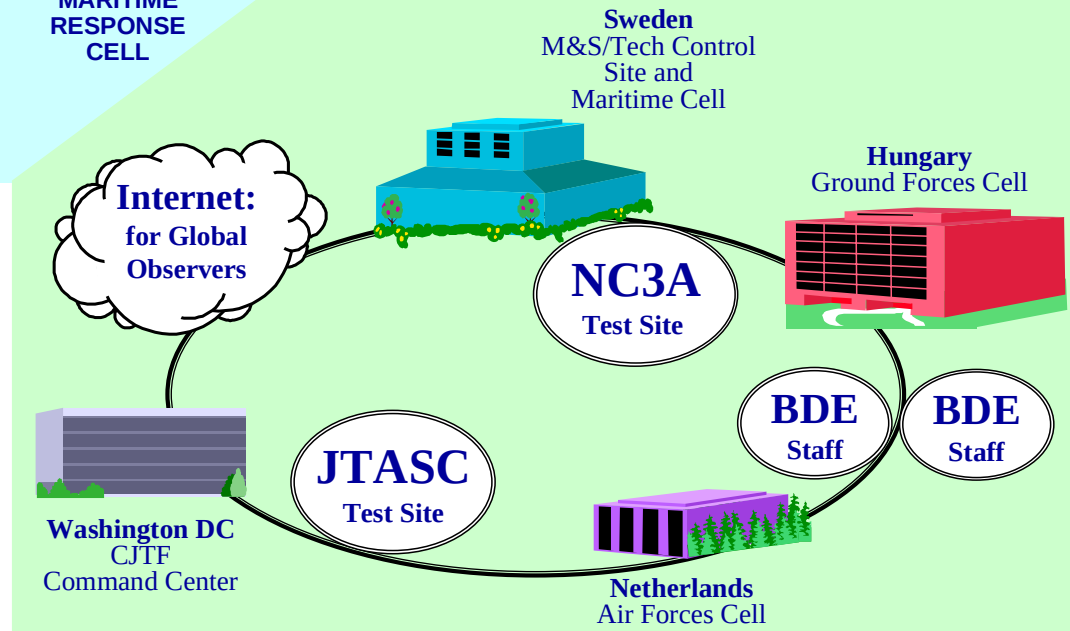
M&S and the Warfighter- the CINCs' View



- Using a NATO Combined Joint Task Force template to demonstrate technologies which can enhance PfP exercises, education, training, and operations.

- Demonstrating an exercise simulations network - part of Secretary Cohen's vision for an enhanced education and training framework among nations.

Network View



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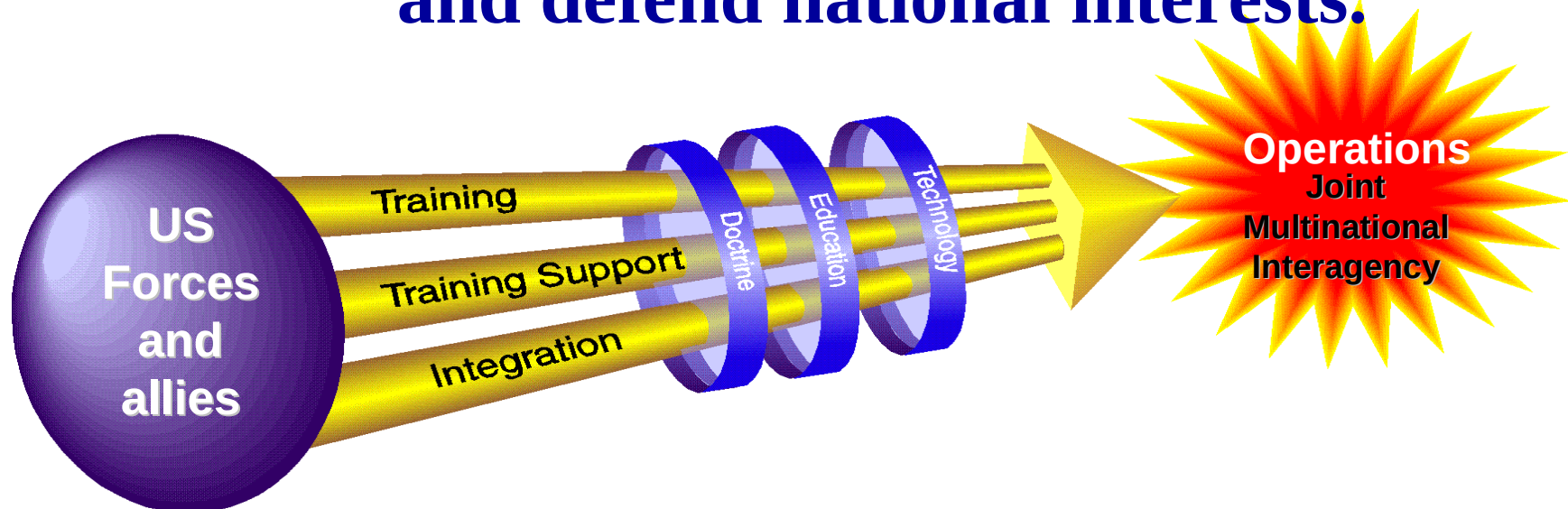


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USACOM's JWFC Vision Statement

M&S and the Warfighter- the CINCs' View

Be the “Center of Excellence” for training, training support, and integration of US forces and allies in preparing to conduct the full spectrum of joint, multinational, and interagency operations in order to protect and defend national interests.



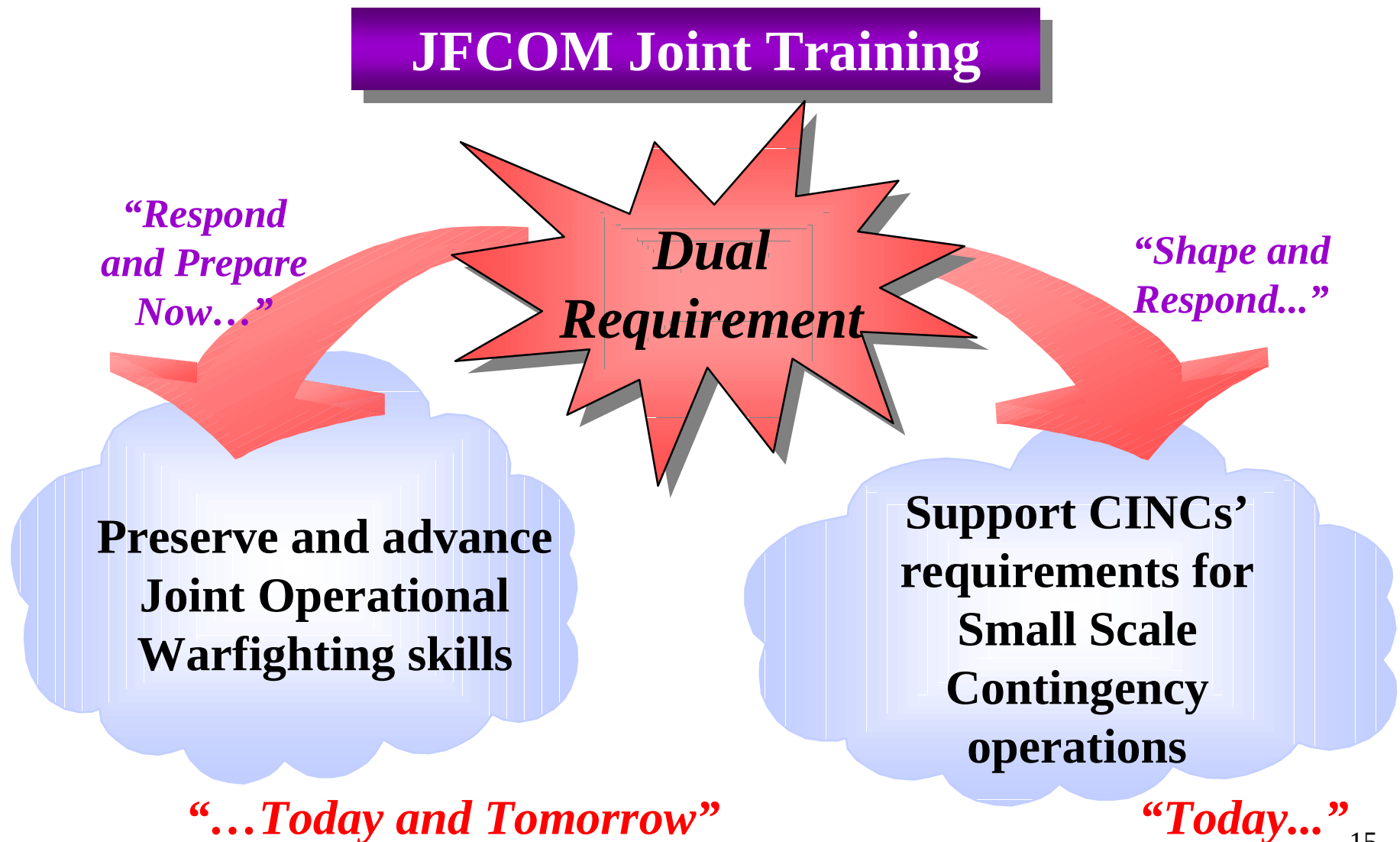
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Joint Forces Command - Training Responsibilities

M&S and the Warfighter- the CINCs' View



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M&S Issue Areas - Joint Experimentation

M&S and the Warfighter- the CINCs' View

- There is a significant role for M&S in the process of Joint Experimentation
- Many parallels in support to training and support to experimentation (exercise life cycle and M&S stimulation)
- J9901 in-progress



M&S Issue Areas - Joint Warfare Analysis

M&S and the Warfighter- the CINCs' View

- **JWARS as central to future joint analytical efforts as JSIMS is to future joint training**
 - **Balanced representation of joint warfare**
- **Distributed, collaborative analytical efforts essential for CINCs in increasingly reduced resource environment**



Joint Vision 2010 Foundation

M&S and the Warfighter- the CINCs' View

“Simulations must be interconnected globally--creating a near-real-time interactive simulation superhighway between our forces in every theater. Each CINC must be able to tap into this global network and connect forces worldwide that would be available for theater operations.”

Joint Vision 2010



M&S Future Challenges

M&S and the Warfighter- the CINCs' View

**Our biggest challenges we are working, and
hope industry is too:**

- **Multi-level architecture resolution**
- **Multiple levels of security**
- **Increased permanent network infrastructure**
- **Rapid database build**
- **Integrated w/ C4I systems (today and tomorrow)**
- **Improved individual and group behavior representation**
- **Course of action analysis & mission rehearsal**



Modeling & Simulation Future

M&S and the Warfighter- the CINCs' View

Multi-Level Architecture Resolution:

- **Integrate existing and future functional simulators into the operational and strategic models**
- **Allows more realistic multi-echelon training**
- **Example: integrate F-15, M-1A1, or Patriot missile simulators into the simulated battlefield**



Modeling & Simulation Future

M&S and the Warfighter- the CINCs' View

Multiple Levels of Security:

- **Integrate MLS capabilities into the models from several aspects:**
 - **Database/model classification**
 - **Output/dissemination classification**
- **External MLS devices are not always available, and do not address all of the current interface issues.**



Modeling & Simulation Future

M&S and the Warfighter- the CINCs' View

Increased Permanent Network Infrastructure:

- **Current exercise distribution relies heavily on leased commercial lines.**
- **Significant drawbacks:**
 - **Cost**
 - **Lead time required for establishment**
- **Prohibits on-demand simulation testing or execution.**



Modeling & Simulation Future

M&S and the Warfighter- the CINCs' View

Rapid Database Build:

- **Database build currently is manpower intensive and produces a non-standard product (databases cannot be easily shared across models).**
- **Prohibits on-demand modeling requirements from being met, particularly operational rehearsal and wargaming of real-world contingencies.**



Modeling & Simulation Future

M&S and the Warfighter- the CINCs' View

Integrated With C4I Systems: (Today and Tomorrow)

- **C4I Systems are the players' interface with the models.**
- **Currently many models do not interface directly with component C4I systems.**
- **For those that do, often this interface has to be modified on the fly in order to facilitate changes made to the C4I systems.**
- **Future model outputs must conform to DoD C4I standards.**



Modeling & Simulation Future

M&S and the Warfighter- the CINCs' View

Improved Individual and Group Behavior Representation:

- **Current models inadequately represent the dynamics of human behavior.**
- **Lack of a “thinking” model inhibits realistic training and increases manpower requirement for role-players.**
- **Future models must be capable of replicating human behavior.**



Modeling & Simulation Future

M&S and the Warfighter- the CINCs' View

Course of Action Analysis and Mission Rehearsal:

- Critical field where M&S can “make money.”
- Currently too time consuming.
- REQUIRES rapid and flexible database build, robust and accurate modeling, and dedicated, high bandwidth networks.



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M&S and the Warfighter- the CINCs' View

Questions?

Please Hold for the Panel Discussion.

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