



CENTER
for
ASYMMETRIC
WARFARE

CAW use of M&S in Support of Maritime HLD/HLS/ATFP Test and Training Exercises

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OUTLINE

- **CAW Background**
- **Asymmetric Warfare Integration Ctr. (AWIC)**
- **Why use M&S?**
- **Types of M&S used by CAW**
- **Summary and conclusions**

A Gathering Storm?

**WTC
1993/2001**



**USS Cole
2000**



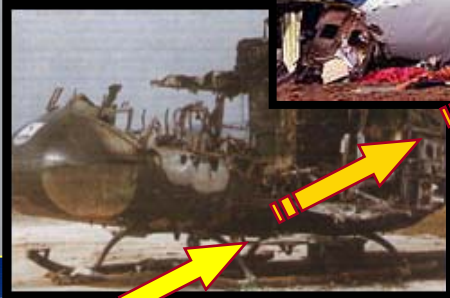
**Ok City
1995**



**Lockerbie
1988**



**Munich
1972**



“We can be certain about trends, but uncertain about events. Adapting to surprise quickly and decisively must therefore be a condition of planning. *Donald Rumsfeld*

Mission

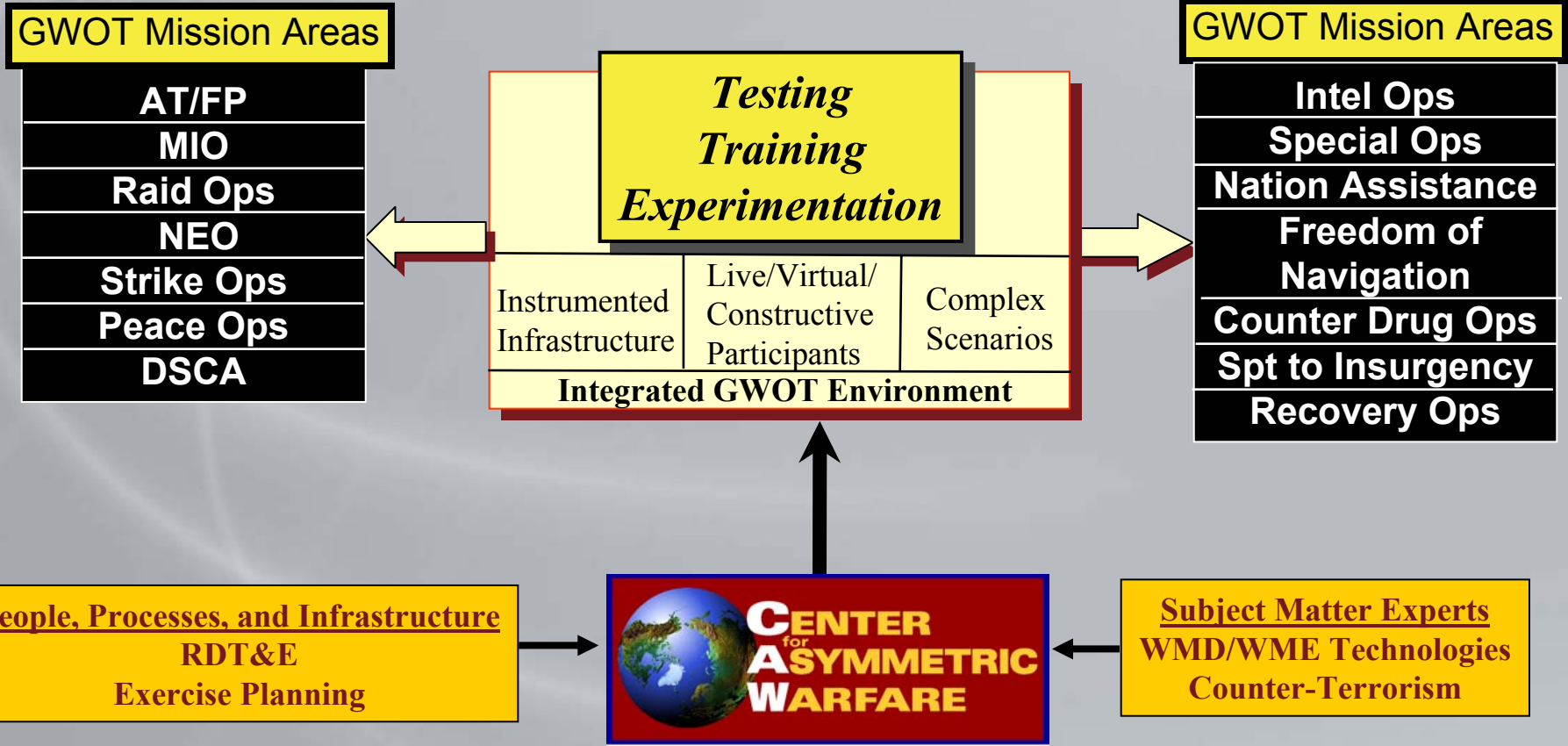
- A US Navy agency established in 1999, dedicated to supporting US military forces and local/state/federal organizations in recognizing, countering and controlling the effects of Asymmetric Warfare in support of the Global War on Terrorism
- Develop and execute complex scenario-based Exercises involving multiple diverse organizations; expanding on *Maritime/Port Security* environment heritage
 - Testing
 - Training
 - Experimentation



Inside the Fence



Concept



Products and Services

Training
&
Exercises

Mission
Management
& Rehearsal



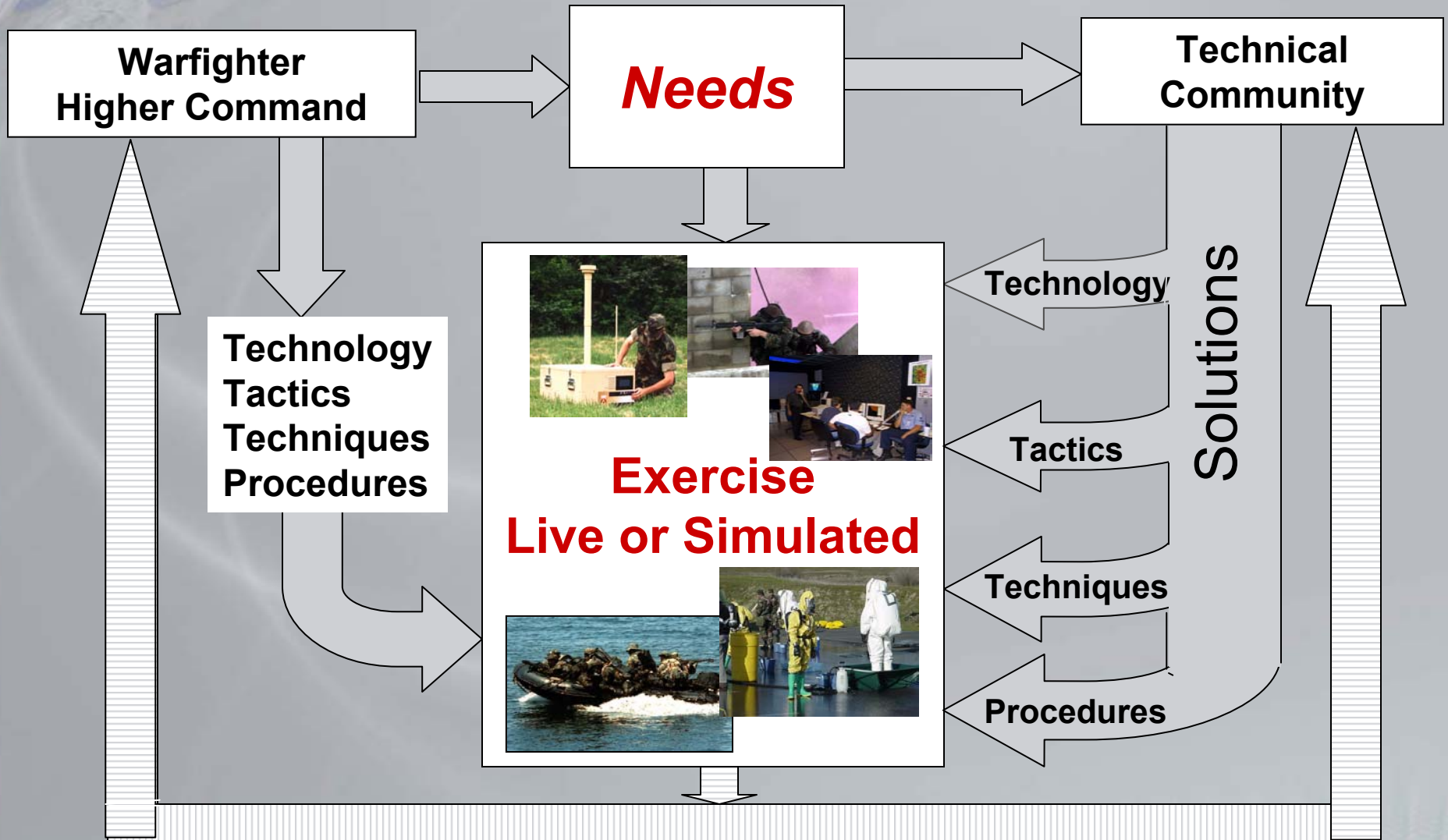
Integrated AW Environment

- Simulation Development
- Exercise/Research Support
- Scenario Dev & Documentation
- Terrain and Org Data Development
- Real/Virtual targets/threats
- White Cell
- Red Cell (OPFOR)
- Intel Cell
- METOC Cell
- Metrics

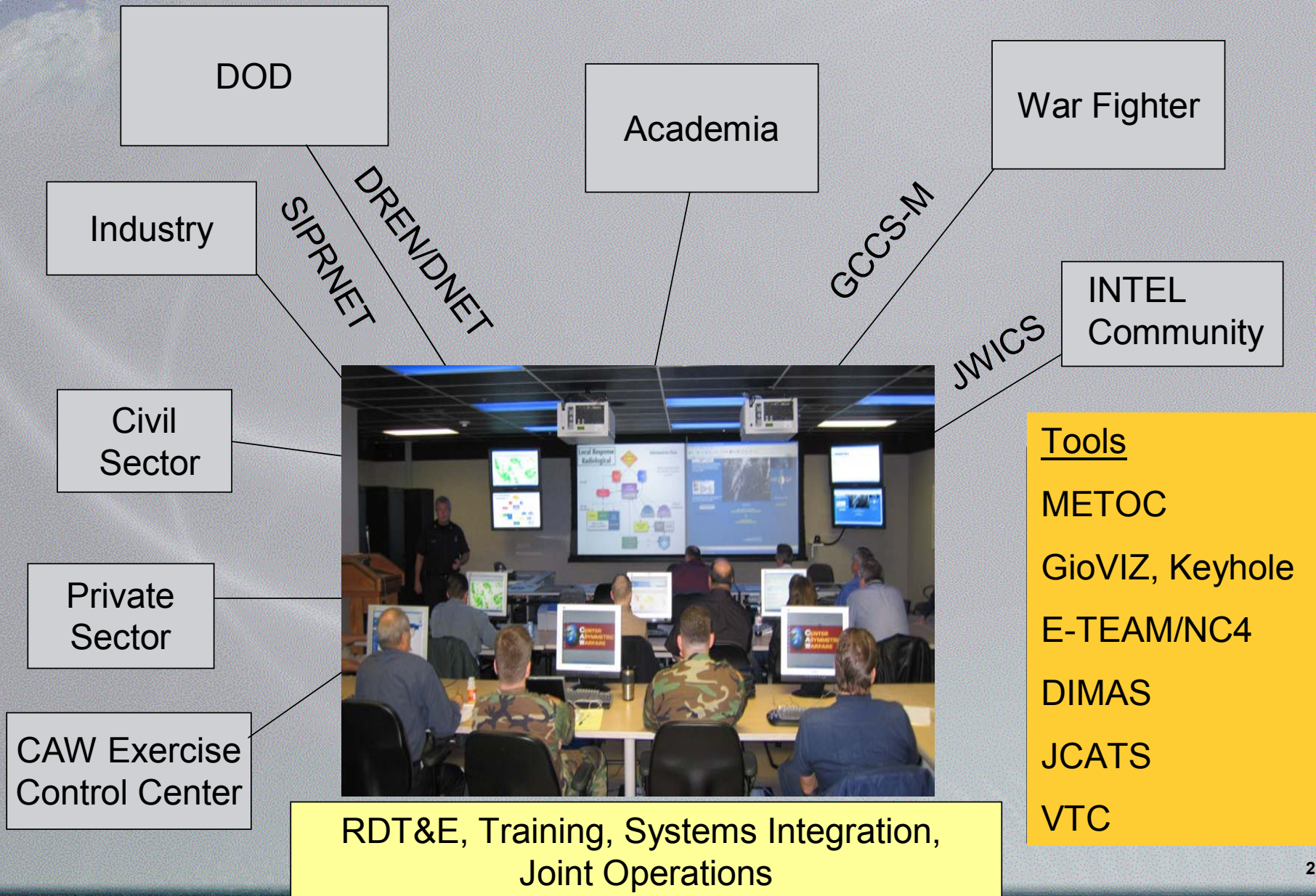
Technology
Assessment
& Analysis

Tactics &
Procedures
Development

Technology Insertion



Asymmetric Warfare Integrated Center (AWIC) Integration



Asymmetric Warfare Integration Center (AWIC) Capabilities

- **Capable of distributing and recording data (Integrated, Net-centric)**
- **Live and simulated data feed**
- **Multi-Level classified/unclassified data**
- **Provide access to various facilities/agencies**
- **Links to mobile data collection capabilities**
 - Sensors from the CAW floating vessel or van
- **Utilized as an Exercise Control Center (ECC)**
- **Utilized as a training and communication center**

Why CAW Uses M&S?

Two aspects of the interoperability exercise lend themselves to simulation: response activities by the participating agencies and Red operations (or natural events).

M&S is used in our events where:

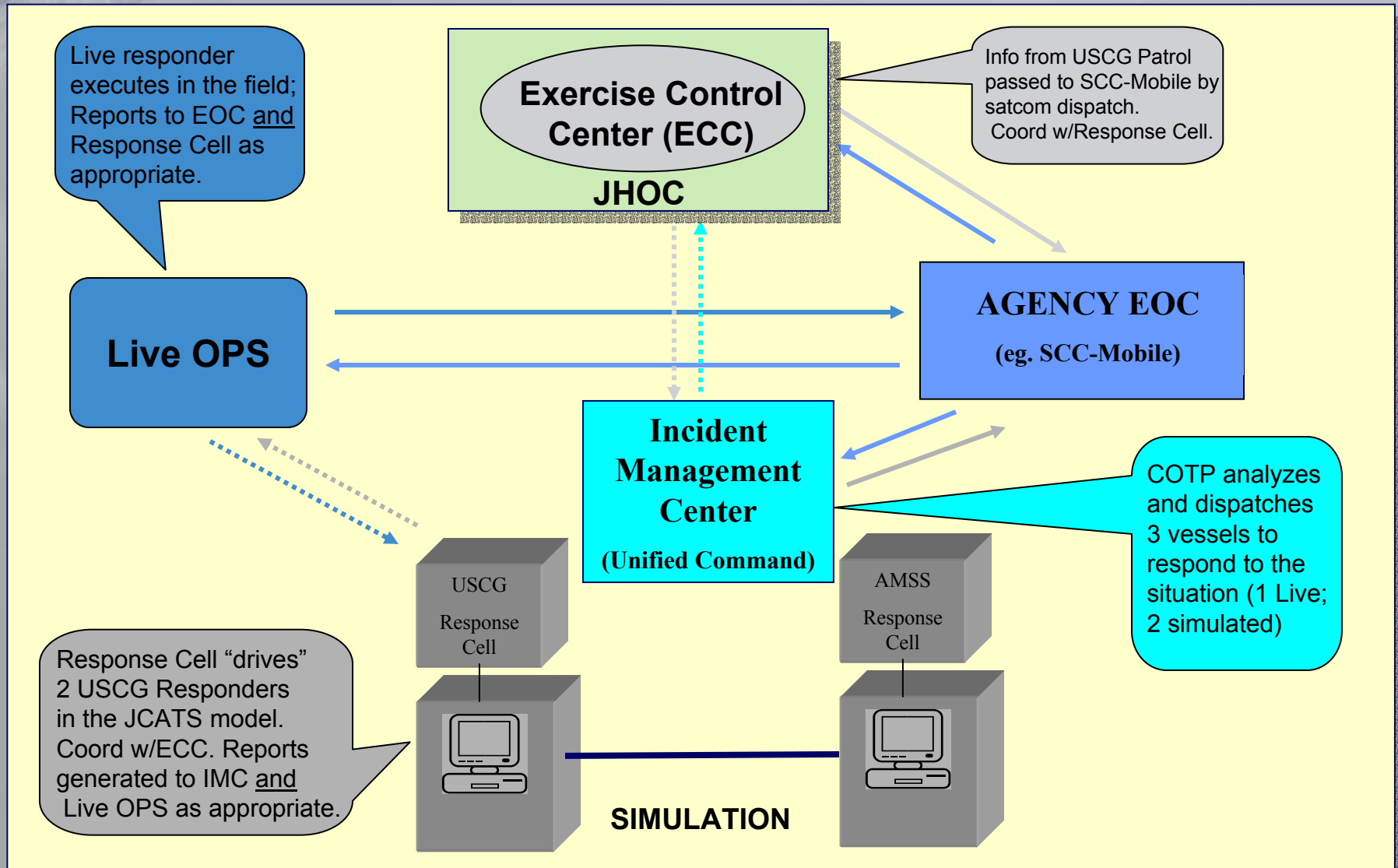
- **Impact of live play would be prohibitive**
 - Obstruction of/Destruction to infrastructure, Health hazards
- **There are insufficient resources**
- **There is insufficient time**
- **A variety of scenarios and their impacts can be demonstrated**
 - In an exercise or In a Table Top discussion

- **High Level Scripting**

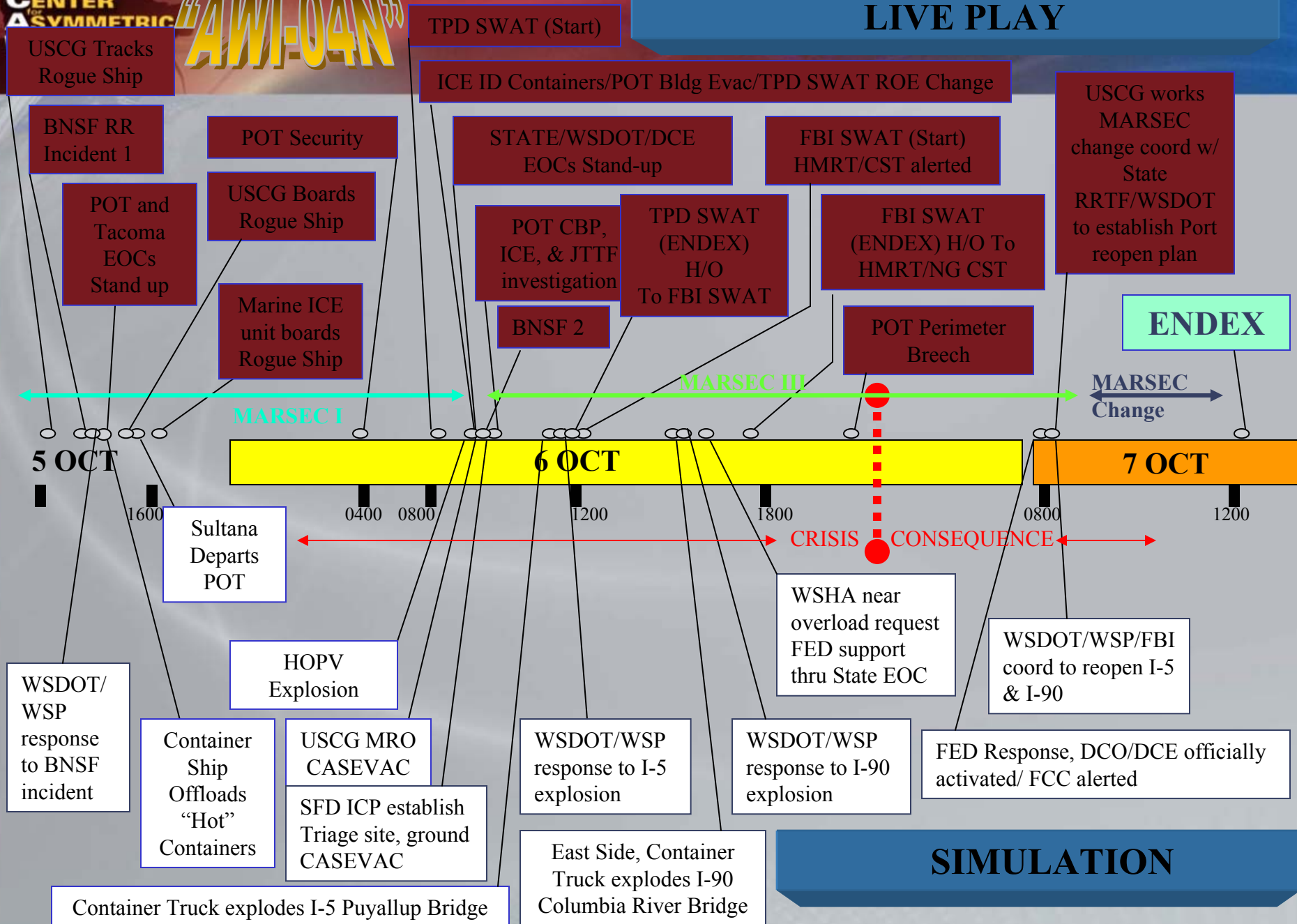
- Loosely scripted actions provide ground truth representation that can also be recorded/played back
- Calculated response to commanded activities
- Easily controlled ad hoc injects
- Detailed element and terrain data required

- Scenario development and run time costs are minor therefore it reduces exercise and training costs.
- Scenario plays out logically, with unrestricted interactive play.
- Terrain and entity data detail is readily available.

Info Activity Flow



LIVE PLAY



CAW Modeling and Simulation



- **JCATS:** Joint Conflict and Tactical Simulation
- **GeoViz/Keyhole:** Geo-spatial representation/locator
- **Tier:** Simulation tool to provide situational awareness
- **RangeView:** M&S tool provides Common Operating Picture
- **Air Transport and Dispersion (Plume) Modeling:**
 - **HPAC:** Hazardous Prediction and Assessment Capability (DTRA)
 - **VLSTRACK:** Vapor, Liquid and Solid Tracking (USN)
 - **CAMEO/ALOHA:** Areal Locations of Hazardous Atmospheres (NOAA & EPA)
 - **CATS/JACE:** Consequences Assessment Tool Set, Joint Assessment of Catastrophic Events (DTRA, FEMA & NGIC)

Decision Parameters

- **Live play requirements:**
 - If all response play is live, computer sim advantage is minimal.
 - If live play is not essential, computer sim can reduce logistics and costs
- **Scope and complexity**
 - As scope increases, computer sim becomes more effective, especially if events are strongly linked.
 - Complex events are easily managed within computer sim
- **Preparation Costs**
 - Late changes easily accommodated in computer sim.
 - Consider computer sim support staff availability/cost & prep time.
- **Level of play**
 - Increase in level causes exponential increase in C2 and response elements
- **Participant availability**
 - Computer sim flexibility for filling in participant gaps.
- **Classified ops**
 - Performed w/ relative ease on a secured computer.

Summary



CAW is providing training, technology testing and evaluation, and the foundation for developing Tactics, Techniques, and Procedures (TTP) for controlling and neutralizing the effects of Asymmetric Warfare in complex scenario-based series of live/virtual/constructive exercises.

Use of simulation has improved capabilities and situational awareness at a reduced cost.

Conclusion

- **Using sims in conjunction with live play or Table Top exercises can improve effectiveness and efficiency and reduce costs (depending on the participant's interests)**
- **The live and sim techniques can be combined to make best use of attributes from each.**
- **Together, they can provide improved situational awareness for the participants.**

Questions?



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