

UNCLASSIFIED



Joint Distributed Engineering Plant (JDEP)

Joint Interoperability Test Command (JITC)

JDEP Division

Fort Huachuca, AZ

UNCLASSIFIED



UNCLASSIFIED



Agenda

- **Background**
- **Mission**
- **Primary Users**
- **Activities**
- **Management**
- **Challenges**

UNCLASSIFIED



UNCLASSIFIED



Background

- **PDM Decision – September 2000**
- **Executive Steering Group names DISA/JITC as JDEP Manager/ Coordinator – September 2001**
- **First Test Event – September 2001**
 - SIAP SE Objectives
 - AEGIS, PATRIOT, AWACS, E-2C

UNCLASSIFIED



UNCLASSIFIED



Mission

“...a DOD-wide effort to **link existing** service and joint combat system **engineering test sites**....JDEP is designed to **improve** the **interoperability** of weapon systems and platforms through rigorous testing and evaluation in a replicated battlefield environment.”*

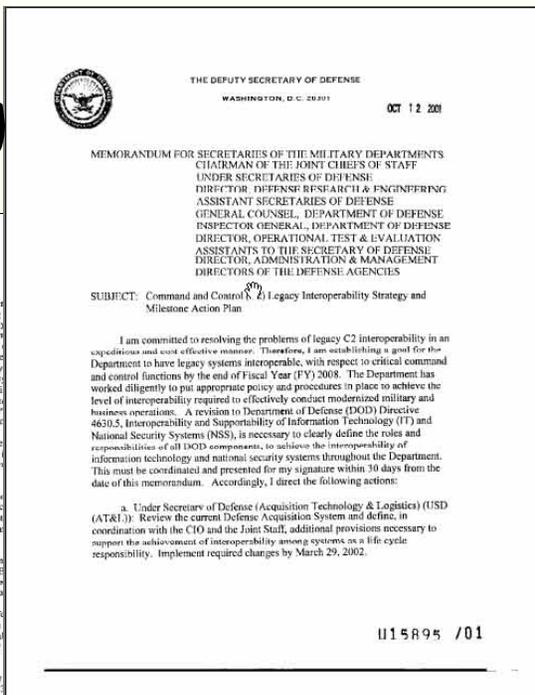
*Defense Planning Guidance Update, FY 2002-2007

UNCLASSIFIED



UNCLASSIFIED

The Wolfowitz Memo



“... I am establishing a goal for the Department to have legacy systems interoperable with respect to critical command and control functions by the end of Fiscal Year 2008....”

...ensure appropriate funding for...the **Joint Distributed Engineering Plant**....”

UNCLASSIFIED



UNCLASSIFIED



Budget Testimony – CJCS Gen Richard Myers

“...we need to make sure that new systems are conceived, designed and produced with joint war-fighting requirements in mind...we need ...to **look at new systems as interchangeable modules** that can **plug and play** in any situation....”

Fiscal Year 2003 Department of Defense Budget Testimony, Chairman of the Joint Chiefs of Staff General Richard Myers, before the U.S. Senate Committee on Armed Service, February 5, 2002

UNCLASSIFIED



UNCLASSIFIED



Primary Users

- **Developers need to engineer interoperability into system**
- **Testers need to test and evaluate interoperability among systems**
- **Warfighters need to assess operational capabilities of forces**

UNCLASSIFIED



UNCLASSIFIED



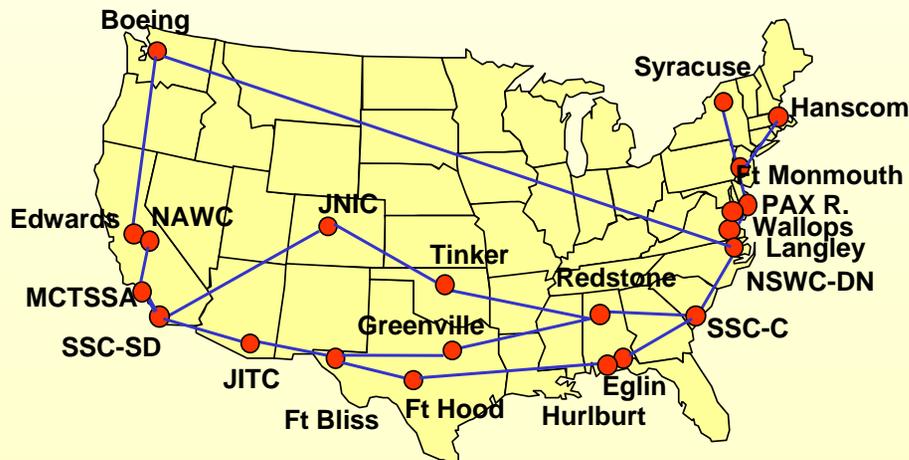
Physical and Functional Description

Physically

- Connects combat system engineering sites
- Emulated tactical data links
- Synchronized sensor stimulation

Functionally

- Replicates Joint Force Combat Systems / BMC4I
- Controlled, repeatable environment
- Can assess:
 - + FoS interoperability
 - + Joint Mission Area effectiveness



Identify key joint interoperability problems and verify fixes **before** JTF deployment

UNCLASSIFIED



UNCLASSIFIED



JDEP Foundation

The Joint Distributed Engineering Plant will assist in building and employing interoperable forces across multiple mission areas by providing a means for:

- **Developers** to engineer interoperability into systems
- **Testers** to test and evaluate interoperability among systems
- **Warfighters** to assess the operational capabilities of forces

JDEP is designed to improve the interoperability by providing the infrastructure needed to support integration testing and evaluation in a replicated battlefield environment

UNCLASSIFIED



UNCLASSIFIED



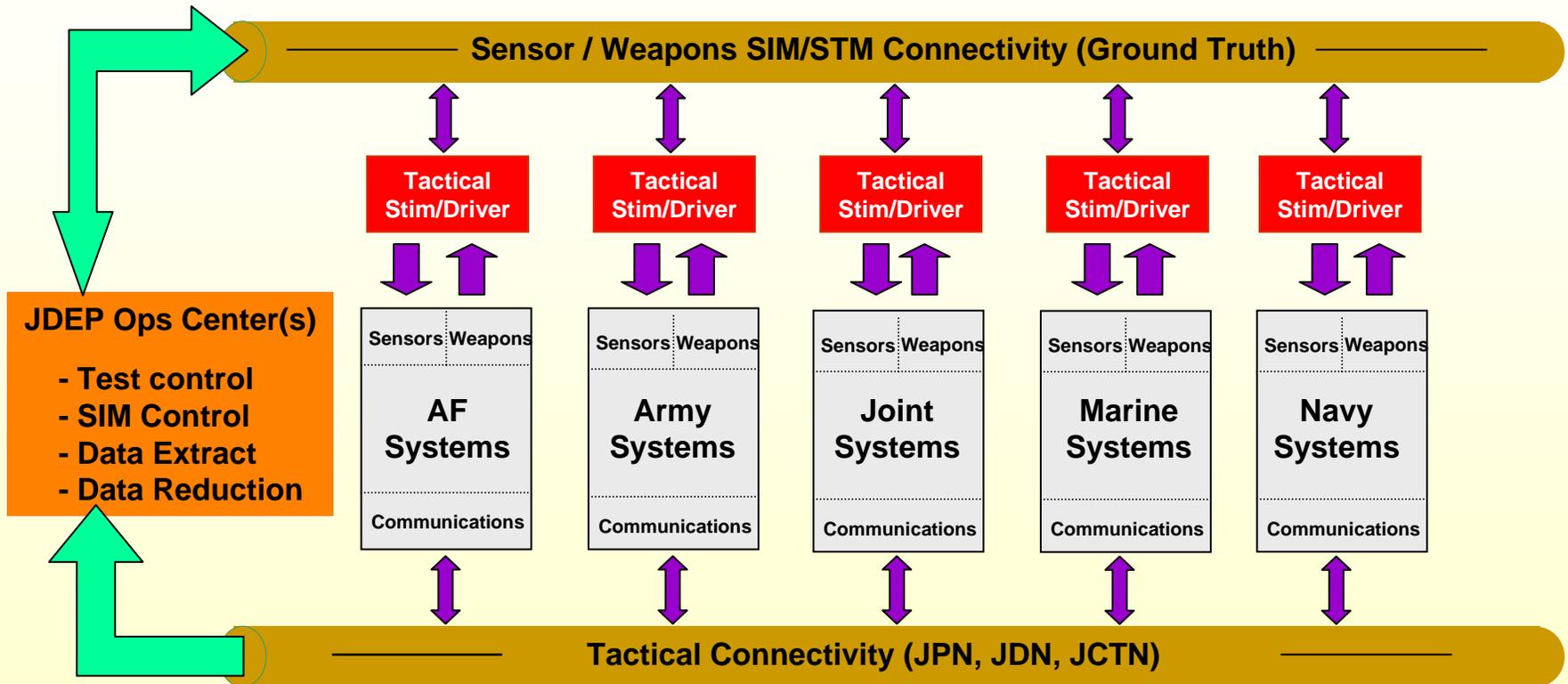
JDEP Strategy

- Create a DoD/Industry federation of test sites, laboratories, and facilities to address and resolve warfighter, systems developer, and Tester interoperability Issues
 - Establish DoD wide technical approach and standards to bridge current approaches into a common framework
 - Federate HWIL, simulated, and range-based systems under a set of common standards, reference scenarios, and procedures
- Provide technical support for cradle-to-grave planning, execution, and data reduction/delivery cycle, with capability to support high interest, short-term events as required

To Support SecDef's Priorities of Deterrence, Modernization, Transformation, and Reform of DoD



Architecture





UNCLASSIFIED

JDEP Management Structure

Board of Directors
★ ★ ★



- Oversees investment and management of JDEP capability and infrastructure

DISA

JDEP Manager
Principal Director for Interoperability (SES)
Core JDEP Staff



- Provides DoD-level programmatic leadership
- Develops investment plan and management plan
- Oversees execution of the program by Coordinator

JITC

JDEP Coordinator
JDEP Division
Technical Support
Operations



- Coordinates with suppliers
- Develops and maintains the infrastructure
- Supports users to create federations and conduct events

Joint Distributed Collaborative Engineering Team

- Single management structure supporting multiple user communities
- Users (PMs, test agencies, etc) work within their existing structures to conduct events with JDEP support to meet their needs

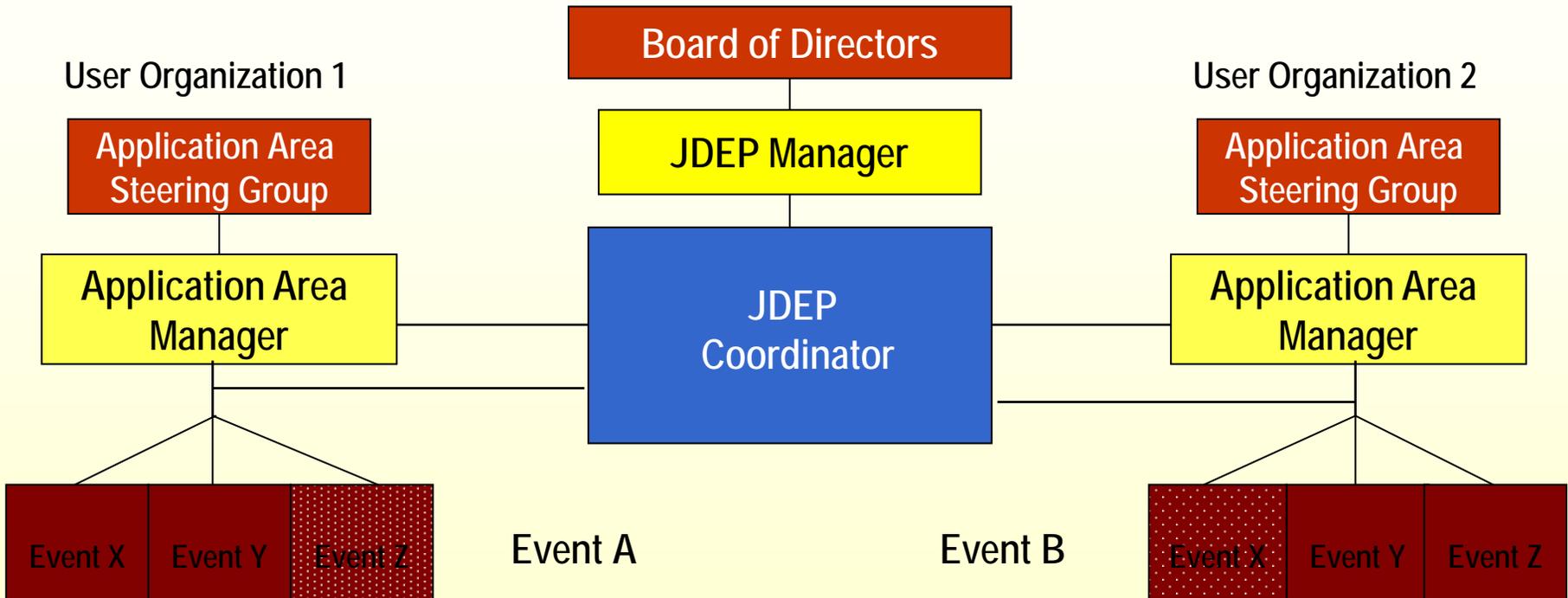
UNCLASSIFIED



UNCLASSIFIED

Roles and Responsibilities in the Conduct of Events

JDEP Management Structure



UNCLASSIFIED

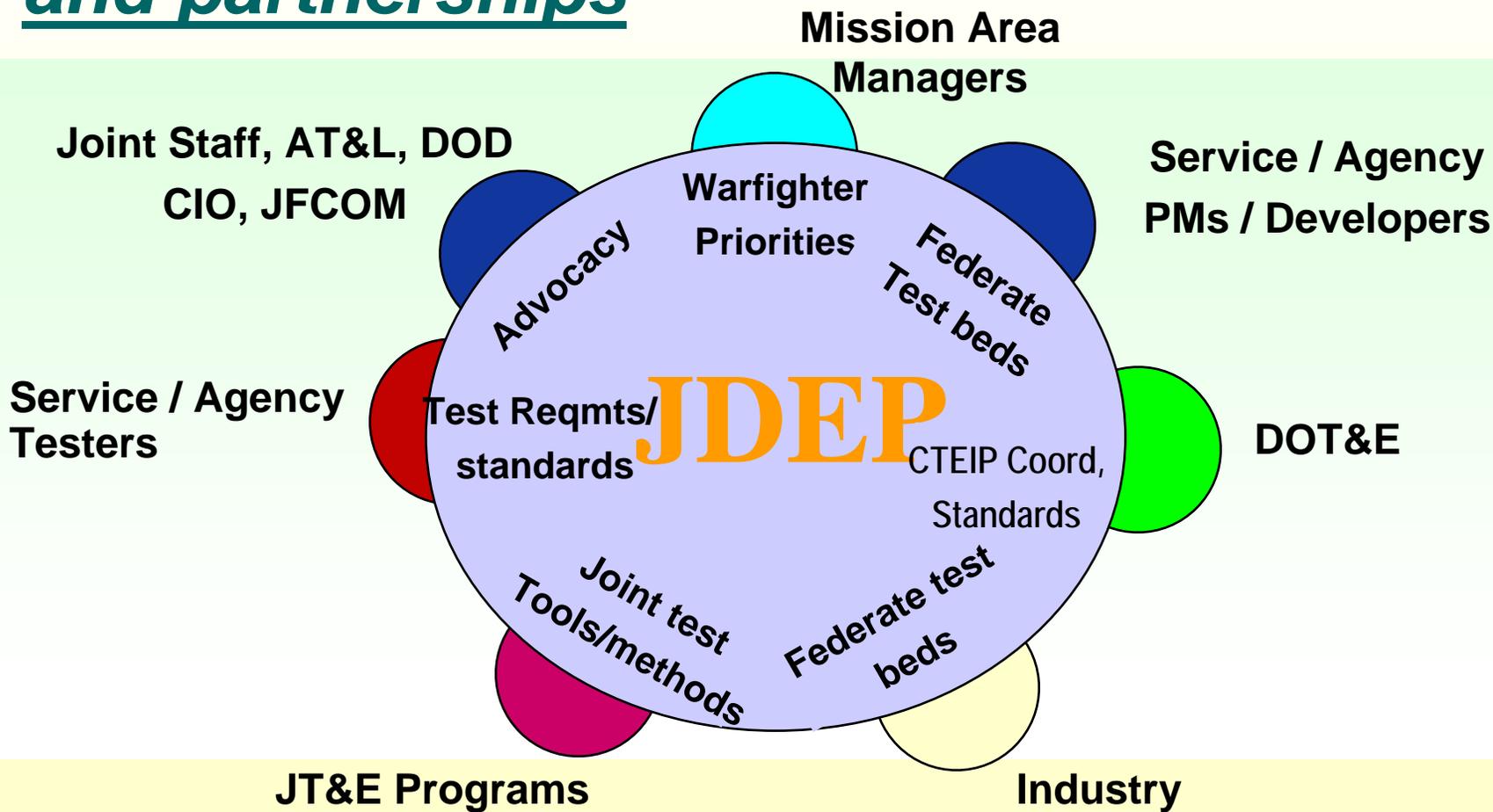


UNCLASSIFIED



JDEP Essential Partnerships

The JDEP enterprise is based on alliances and partnerships



UNCLASSIFIED



UNCLASSIFIED



JDEP TECHNICAL APPROACH

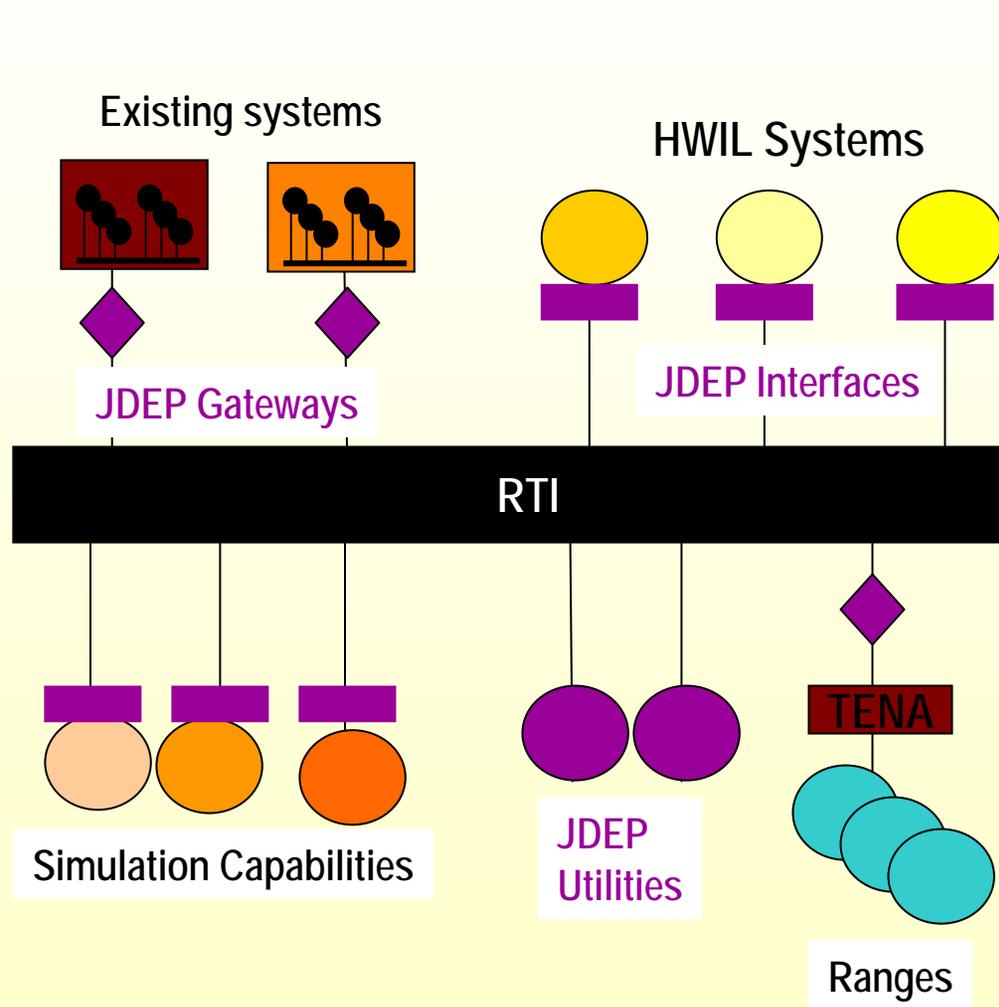
- Support user needs today with current capabilities to degree possible
- Identify gaps in needs with options for filling those needs
 - Form **partnerships** with developmental programs for development of needed capabilities, and to federate those capabilities for future use
- Use standards-based framework for JDEP Infrastructure
 - **Framework** to be established cooperatively by JITC with input from other OSD agencies, the Services, and Industry
 - Priority on **commercial tools** to provide a flexible, federated menu of government and industry capabilities within an approved common reference scenario
 - Identify and coordinate **new investments** as part of a deliberate, managed approach to maturing the JDEP infrastructure
 - Ease the effort required in reusing components to create new test-specific federations
- Procure and use new or existing capabilities to create JDEP federations and conduct JDEP events
- Guide component selection, procurement of, and upgrades to existing facilities to enable JDEP to take advantage of new developments and commercial products

CENTRALIZED MANGAGEMENT – DECENTRALIZED EXECUTION



UNCLASSIFIED

Federations Based on Technical Framework



JDEP will support federating of Capabilities on a standards-based (COTS) **common infrastructure**

- Addresses the 'n'way' issue, different systems can interact into the **core standards-based federation**
- **Gateways** can be 'productized' and managed as JDEP assets
- New systems can be added to the core with supported by JDEP **interfaces**
- **JDEP utilities** (data collectors, viewers, mgt tools) can be used with federations with different mixes of components **UNCLASSIFIED**



UNCLASSIFIED



JDEP PRODUCTS

- What JDEP can provide
 - Single point capability provider and coordinator for Interoperability and integration testing
 - A standards-based, common technical framework
 - a systems testbed.
 - Unobtrusive support for Systems Development, Integration, T&E, Experimentation, & Training
 - Standards, cooperation, coordination and a flexible infrastructure that provides the environment for quality, repeatable test results/data
 - Disciplined means to invest in a federated integration & test infrastructure

UNCLASSIFIED



UNCLASSIFIED



JDEP PRODUCTS

What JDEP can't provide

- Funding for cradle to grave Interoperability testing
- Funding for Program Manager, T&E Community, and Training Manager events
- Mission area systems engineering
- Not a separate technical development program

JDEP Is Structured to Support Connectivity and Provide System Test Capabilities to the User Community

UNCLASSIFIED



UNCLASSIFIED



Challenges

- **Multiple Masters – Services, JS, OSD, JFCOM, Developers, Testers**
- **Funding Fragmented - Defense-wide and Services**
- **Expectations High - testbed is essential, but is only part of the solution**

UNCLASSIFIED



UNCLASSIFIED

SUMMARY



- **JDEP is a federated Interoperability test asset focused on the User's needs.**
- **Initial focus on JTAMDO and SIAP SE mission area applications**
 - **JTAMDO Proof of Concept Completed Sep 01**
 - **SIAP SE Event scheduled for '02**
- **Proposed events include HLD, HLS ACTD, OSD/C3I Interoperability Working Group (COP mission areas)**
- **FY03-09 JDEP Strategic Planning, Development, and Resourcing on-going (DISA/JITC)**
- **Reviewing opportunities to expand JDEP into Warfighter Experimentation, System Development, T&E, and Training communities**

UNCLASSIFIED

