Joint Test and Evaluation (JT&E)

The primary objective of the Joint Test and Evaluation (JT&E) Program is to rapidly provide non-materiel solutions to operational deficiencies identified by the joint military community. The program achieves this objective by developing new tactics, techniques, and procedures (TTP) and rigorously measuring the extent to which their use improves operational outcomes. JT&E projects may develop products that have implications beyond TTP. Sponsoring organizations transition these products to the appropriate Service or Combatant Command (CCMD) and submit them as doctrine change requests. Products from JT&E projects have been incorporated into joint and multi-Service documents through the Joint Requirements Oversight Council process, Joint Staff doctrine updates, Service training centers, and coordination with the Air Land Sea Application Center. The JT&E Program also develops operational testing methods that have joint application. The program is complementary to, but not part of, the acquisition process.

The JT&E Program uses two test methods: the Joint Test and the Quick Reaction Test (QRT), which are all focused on the needs of operational forces. The Joint Test is, on average, a 2-year project preceded by a 6-month Joint Feasibility Study. A Joint Test involves an in-depth, methodical test and evaluation of issues and seeks to identify their solutions. DOT&E funds the sponsor-led test team, which provides the customer with periodic feedback and usable, interim test products. The JT&E Program charters two new Joint Tests annually. The JT&E Program managed nine Joint Tests in FY19. Projects annotated with an asterisk (*) were completed in FY19:

- Joint Counterair Integration (JCI)*
- Joint Cyber Insider Threat (J-CIT)*
- Joint Hypersonic Strike, Planning, Execution, Command and Control (J-HyperSPEC2)
- Joint Interoperability for Medical Transport Missions (JI-MTM)*
- Joint Interoperability through Data Centricity (JI-DC)
- Joint Laser Systems Effectiveness (JLaSE)
- Joint Sense and Warn (J-SAW)
- Multi (enhanced) Domain Unified Situational Awareness (MeDUSA)
- Recovery Enhanced by Synchronizing Capabilities to Unify Effects (RESCUE)

QRTs are intended to solve urgent issues in less than a year. The JT&E Program managed 16 QRTs in FY19:

- Critical Strategic Power Projection Infrastructure (CRSPPI)*
- Integration of small Unmanned Aircraft Systems into Joint Airspace (sUAS)
- Joint Accuracy of Nationally Derived Information (JANDI)*
- Joint Aviation Multi-Ship Integrated Air Defense System (IADS) Survivability Validation (JAMSV)
- Joint Chemical Biological Radiological Nuclear (CBRN) Tactical Information Management (J-CTIM)
- Joint Contaminated Human Remains (CHR) Recovery in a Chemical Environment (JCRCE)*
- Joint Enhanced Emissions Control (EMCON) Procedures (JEEP)
- Joint Enterprise Data Interoperability (JEDI)
- Joint Intelligence, Surveillance, and Reconnaissance (ISR) to Tactical Data Link (TDL) Modernization (JITM)*
- Joint/Interagency – Ground/Air Transponder Operational Risk Reduction (JI-GATOR)
- Joint Littoral Fire Support Coordination (J-LIFE)
- Joint Military Application of the Space Environment (J-MASE)
- Joint Optimization of Electromagnetic Spectrum (EMS) Superiority (JOES)
- Joint Procedures for Integrated Tactical Warning and Attack Assessment (ITWAA) of Hypersonic Glide Vehicles (HGV) (J-PITH)*
- Joint Radio Frequency-Enabled Cyberspace Operations (JRF-ECO)*
- Situational Positioning of Long Dwell, Long Duration (LD2) Intelligence, Surveillance, and Reconnaissance (ISR) – Concept of Operations (CONOPS) Evolution (SPLICE)

JOINT TESTS

JOINT COUNTERAIR INTEGRATION (JCI) (CLOSED NOVEMBER 2018)

Sponsor/Start Date: U.S. Indo-Pacific Command (USINDOPACOM)/February 2017

Purpose: To develop, test, and evaluate TTP to provide counterair shooters and command and control (C2) operators with the ability to integrate joint defensive counterair (DCA) resources in a contested, degraded, and operationally limited (CDO) environment to protect defended assets from expected threats. The JCI solution integrates joint DCA by pairing targets with the correct weapon system by focusing on sharing ID/Platform/Type in order to enhance joint DCA efficiency and lethality.

Products/Benefits:

- TTP that enables operators to integrate joint DCA forces in a CDO environment to improve tactical-level operations, enhance coordination between assets, and minimize exploitation of gaps in area coverage
- Consolidated procedures that support sharing of threat information across various land, sea, and air tactical-level

platforms to optimize use of weapons and reduce possibility of fratricide
- Integration of Army, Air Force, Navy, and Marine Corps DCA assets to counter a peer threat in a CDO environment
- Validated findings that led to recommendations in standardizing C2 procedures and tactical message information

JOINT CYBER INSIDER THREAT (J-CIT) (CLOSED NOVEMBER 2018)

Sponsor/Start Date: U.S. Army Research Laboratory/ August 2016

Purpose: To develop, test, and deliver the Cyber Insider Threat Detection and Reporting (CIDaR) TTP to enable detecting and reporting of cyber insider threats prior to having a negative effect on national security interests.

Products/Benefits:
- CIDaR TTP that includes planning and network management considerations for configuring and utilizing existing organizational organic hardware and software to monitor user activities by analyzing data and log files
- CIDaR TTP that provides procedures for Cybersecurity Service Provider operators to analyze and report insider threat events
- CIDaR TTP that supports regulatory guidance, strategies, and directives that mandate an insider threat program

JOINT HYPERSONIC STRIKE, PLANNING, EXECUTION, COMMAND AND CONTROL (J-HYPERSPEC2)

Sponsor/Start Date: U.S. Strategic Command (USSTRATCOM)/August 2018

Purpose: To develop, test, and evaluate C2 concept of operations (CONOPS) that enables warfighters to effectively plan and support hypersonic weapon employment decision-making to fully capitalize on this emerging capability.

Products/Benefits:
- CONOPS integrates hypersonic strike weapons (HSW) into the joint planning process and provides leadership with necessary information to make decisions that offer the highest probability of success
- CONOPS provides a Combatant Commander with the conceptual framework required when planning, directing, and employing HSW in support of strategic and operational objectives
- Enables effective employment of HSW to provide a highly responsive, long-range, conventional strike option for distant, defended, and/or time-critical threats when forces are denied access, not available, or not preferred

JOINT INTEROPERABILITY FOR MEDICAL TRANSPORT MISSIONS (JI-MTM) (CLOSED SEPTEMBER 2019)

Sponsor/Start Date: DOD Chief Information Officer/ August 2017

Purpose: To develop, test, and evaluate standardized TTP to access and utilize existing patient information from various health information systems across the DOD during the patient movement request and validation process.

Products/Benefits:
- Faster access to required information resulting in quicker validation of patient movement requests and movement to the appropriate level of care
- Richer picture of patient history for better informed medical decisions
- Improved capability to plan and deliver appropriate transport and onboard medical staff in order to provide the best en route care for patients
- Reduced workload and potential for errors during manual information reentry into the patient movement planning system

JOINT INTEROPERABILITY THROUGH DATA CENTRICITY (JI-DC)

Sponsor/Start Date: DOD Chief Information Officer/ February 2019

Purpose: To develop, test, and evaluate non-materiel products that will establish and utilize a data-centric environment to enable mission commanders at the operational and tactical levels to effectively collaborate and conduct operations with coalition and multi-national partners. CCMDs are limited in their ability to effectively plan and conduct operations with dynamic mission partners because they cannot share information easily and securely. A data-centric environment uses attribute-based access control software to enable authorized users to view and share information appropriately on one network while limiting access to the same information by other users on the same network. Working in conjunction with U.S. Central Command, JI-DC focuses on collapsing disparate networks – created to support individual missions – into a single mission releasable network. Instead of network separation, JI-DC separates data at the individual object level.

Products/Benefits:
- Policy and procedures to implement a data-centric environment across all realms of operations that will foster faster and more efficient information flow, collaboration, allocation of resources, and decision-making with allies, partner nations, and U.S. interagency counterparts
- Procedures that will employ data-centric technologies that will modernize information sharing capabilities to enhance operational effectiveness, enable dynamic multi-national force deployment, and deepen alliances through interoperability
- Data centricity will reduce need for multiple operational networks each with unique partner sharing policies resulting in reductions in hardware, software, infrastructure, people, and significant savings in information system costs
- Recommendations to evolve policies for information sharing that leverage current technologies

JOINT LASER SYSTEMS EFFECTIVENESS (JLASE)

Sponsor/Start Date: Naval Surface Warfare Center, Dahlgren Division/April 2017

Purpose: To develop and test targeting procedures that incorporate weaponeering, risk analysis, and mitigation capabilities into the Joint Targeting Cycle that support the operational employment of high-energy laser (HEL) weapon systems.

Products/Benefits:
- TTP developed and tested for the integration of HEL systems into joint and Service operations to create battlespace effects in response to the commander's intent and end-state objectives
- Integrates HEL systems capabilities into Joint Targeting Cycle processes focusing on capabilities analysis for weaponeering and combat risk assessment
- Establishes increased confidence in warfare commanders to select HEL as a viable combat capability to employ scalable lethality effects ranging from degrading sensors to catastrophic destruction
- Development of HEL Joint Munitions Effectiveness Manual lethality data for weaponeers and target planners to determine laser weapons effects on targets
- Recommendations to assist the Services in HEL system development, acquisition, and integration as it applies to their operational employment procedures

JOINT SENSE AND WARN (J-SAW)

Sponsor/Start Date: U.S. Air Forces in Europe – Air Forces Africa and USINDOPACOM/August 2018

Purpose: To test and evaluate a concept of employment (CONEMP) and TTP to integrate a persistent surveillance system into existing U.S. and coalition integrated air defense system architecture for use in air defense warning and engagement C2.

Products/Benefits:
- CONEMP and TTP provide CCMDs with technical and operational procedures to integrate tracks into a theater common operational picture (COP), manage track identification and evaluation, and enable passive and active defense responses
- Improves air defense systems through earlier sensing and warning for U.S. and allied forces
- Integrates new sensor capabilities to better detect and track evolving air threats
- Test recommendations will improve doctrine and organization, enhance training and materiel, inform leadership and education, and better utilize limited personnel and facilities

MULTI (ENHANCED) DOMAIN UNIFIED SITUATIONAL AWARENESS (MEDUSA)

Sponsor/Start Date: USINDOPACOM and U.S. Northern Command (USNORTHCOM)/February 2018

Purpose: To test and evaluate non-materiel solutions supporting the development of standardized displayable COP information layers within the unclassified domain, the transfer of the layers via a cross domain solution to the classified domain, and the utilization of products from the SIPRNET COP.

Products/Benefits:
- Validated technical processes and procedures for generating standardized unclassified domain products and displaying them on a SIPRNET COP in order to enhance commanders' situational awareness and understanding within their areas of responsibility
- Best practices and lessons learned for gaining situational awareness utilizing unclassified COP information on a consolidated SIPRNET COP
- Increased situational awareness and understanding through the use of an enhanced comprehensive view of data on a single COP

RECOVERY ENHANCED BY SYNCHRONIZING CAPABILITIES TO UNIFY EFFECTS (RESCUE)

Sponsor/Start Date: Joint Personnel Recovery Agency/ August 2019

Purpose: To develop, test, and deliver TTP to integrate and synchronize multi-domain capabilities with personnel recovery operations in an anti-access/area denial (A2/AD) environment.

Products/Benefits:
- TTP will serve as an essential component to utilizing multi-domain assets to enable communication, protection, and ultimate recovery of isolated personnel
- TTP will complement personnel recovery operations in every CCMD
- TTP will be scalable to any environment and allow recovery forces to use the full spectrum of joint military and partner nation assets

QUICK REACTION TESTS

CRITICAL STRATEGIC POWER PROJECTION INFRASTRUCTURE (CRSPPI) (CLOSED OCTOBER 2018)

Sponsor/Start Date: North American Aerospace Defense Command (NORAD)-USNORTHCOM/June 2017

Purpose: To develop Interagency Infrastructure Assessment (IIA) TTP to enable the assessment of selected critical interagency infrastructures. Sponsor lacks specific agreements, procedures, and access to conduct assessments in areas that the DOD does not own or control. A lack of information and assessment of certain critical infrastructures, facilities, and transportation nodes significantly degrades the sponsor's

ability to prepare for and rapidly respond to high consequence, multi-domain threats to U.S. critical strategic infrastructures.

Products/Benefits:
- IIA TTP, with an accompanying implementation plan, that prescribes all aspects of manning, agreements, funding support, and coordination to initiate an IIA program of record
- TTP provides users with the necessary tools to assess force flow vulnerabilities within a contested environment due to state or non-state actors
- Reports stemming from use of TTP have been stored on a digital database used by U.S. Transportation Command, the Department of Transportation, the Transportation Security Administration, and other government agencies allowing access to this information in a timely manner

INTEGRATION OF SMALL UNMANNED AIRCRAFT SYSTEMS INTO JOINT AIRSPACE (SUAS)

Sponsor/Start Date: Marine Operational Test and Evaluation Squadron One/March 2019

Purpose: To research, develop, and evaluate newly created airspace control TTP to allow small Unmanned Aircraft Systems (sUAS) to be integrated into joint airspace. The test will focus on meeting the warfighter's requirements by capitalizing on the sUAS's unique capabilities, maximizing freedom of maneuver, and maximizing tactical contributions while balancing the need for safe integration.

Products/Benefits: A Tactical Standard Operating Procedure (TACSOP) manual for the Marine Air Command and Control System to integrate sUAS into their airspace; the TACSOP will serve as the basis to establish joint sUAS integration TTP practices.

JOINT ACCURACY OF NATIONALLY DERIVED INFORMATION (JANDI)
(CLOSED FEBRUARY 2019)

Sponsor/Start Date: USINDOPACOM/October 2017

Purpose: To determine the root causes and source of positional errors in order to mitigate positional errors when publishing nationally derived information generated onto tactical datalinks.

Products/Benefits: Best practices identified to eliminate introduction of positional errors when publishing nationally derived information over tactical datalinks.

JOINT AVIATION MULTI-SHIP INTEGRATED AIR DEFENSE SYSTEM (IADS) SURVIVABILITY VALIDATION (JAMSV)

Sponsor/Start Date: U.S. Army Aviation Center of Excellence/ October 2018

Purpose: To develop and assess rotary-wing multi-ship TTP utilizing joint, large scale combat operations missions and profiles to defeat A2/AD and radio frequency (RF) IADS threats.

Products/Benefits:
- Validated rotary-wing multi-ship TTP to defeat A2/AD and RF IADS threats
- Acquire high-fidelity data for future use in modeling and simulation for further TTP development and optimization
- Inform aircraft survivability equipment modernization and shape requirements for future systems

JOINT CHEMICAL BIOLOGICAL RADIOLOGICAL NUCLEAR (CBRN) TACTICAL INFORMATION MANAGEMENT (J-CTIM)

Sponsor/Start Date: USINDOPACOM/June 2018

Purpose: To identify gaps in current CBRN early warning and reporting processes and develop improved TTP for timely and effective protective posture decision support to friendly forces that enables continuity of operations under situations involving CBRN threats.

Products/Benefits: TTP that supports the joint community to conduct early detection of CBRN agents within the tactical environment and provides warfighters across all Services with the ability to quickly react to a CBRN attack and reduce its effects.

JOINT CONTAMINATED HUMAN REMAINS (CHR) RECOVERY IN A CHEMICAL ENVIRONMENT (JCRCE)
(CLOSED APRIL 2019)

Sponsor/Start Date: U.S. Army Quartermaster School/ June 2017

Purpose: To identify capability gaps in current TTP and develop TTP improvement recommendations for the safe recovery of chemically contaminated human remains (C-CHR). Current Service C-CHR recovery TTP documents lack standardization for the recovery and transport of C-CHR from an incident site to a hasty burial location or contaminated casualty collection point. During these operations, joint force personnel and equipment are at high risk for second- and third-order contamination.

Products/Benefits:
- Joint TTP for safe recovery of C-CHR
- Evaluations on the utility and suitability of new human remains pouch capabilities

JOINT ENHANCED EMISSIONS CONTROL (EMCON) PROCEDURES (JEEP)

Sponsor/Start Date: Naval Information Warfighting Development Center/June 2018

Purpose: To develop TTP to mitigate friendly systems vulnerabilities through determining which friendly RF emissions are detectable by adversary signals intelligence capabilities.

Products/Benefits: TTP that includes a matrix for tactical-level guidance that allows friendly forces to better understand the probability that their RF emissions will be detected by an adversary and what information an adversary will likely be able to derive.

JOINT ENTERPRISE DATA INTEROPERABILITY (JEDI)

Sponsor/Start Date: Department of the Army G-4/March 2018

Purpose: To develop a validated CONOPS to implement logistics data exchange standards among partners required for the Joint Logistics Enterprise to support Globally Integrated Operations as identified in the Chairman, Joint Chiefs of Staff Joint Concept for Logistics, and the Capstone Concept for Joint Operations: Joint Force 2020.

Products/Benefits: CONOPS that enhance logistical interoperability with an allied partner (United Kingdom) and provide a greater level of sustainment to forces embedded within the ranks of a U.S. division.

JOINT INTELLIGENCE, SURVEILLANCE, AND RECONNAISSANCE (ISR) TO TACTICAL DATA LINK (TDL) MODERNIZATION (JITM)
(CLOSED FEBRUARY 2019)

Sponsor/Start Date: Air Combat Command A2/October 2017

Purpose: To develop a procedure for the integration of national ISR data into Link 16 architecture and to update Military Standard (MIL-STD) 6016.

Products/Benefits: TTP to employ updated MIL-STD 6016 for the communication of information directly from national ISR participants to TDL users; TTP improves the timeliness, accuracy, and completeness of national intelligence threat information being disseminated to tactical and operational warfighters.

JOINT/INTERAGENCY – GROUND/AIR TRANSPONDER OPERATIONAL RISK REDUCTION (JI-GATOR)

Sponsor/Start Date: Headquarters, U.S. Air Force A3 and NORAD-USNORTHCOM/June 2019

Purpose: To develop, test, and validate joint and interagency TTP packages to mitigate aviation transponder vulnerabilities. In addition, the resulting test data will help inform policy, rulemaking, training, and regulations to allow for the appropriate employment of TTP anywhere in the aviation ecosystem.

Products/Benefits: TTP that addresses risks to associated technologies capable of tracking military aircraft, such as Automatic Dependent Surveillance-Broadcast Out, mitigating aviation transponder data confidentiality, integrity and availability vulnerabilities affecting aviation operational security, air surveillance, and air traffic control operations.

JOINT LITTORAL FIRE SUPPORT COORDINATION (J-LIFE)

Sponsor/Start Date: USINDOPACOM/June 2019

Purpose: To develop and evaluate TTP to de-conflict attacks, avoid fratricide, reduce duplication of effort, and assist in shaping the operating environment by surface fires into the maritime domain.

Products/Benefits: Updates to Joint Publication 3-09 and Service fires support field manuals; incidental additional products include refined fire support coordination measures, refined C2 and clearance of fires procedures, and refined maritime call for fires format and planning considerations.

JOINT MILITARY APPLICATION OF THE SPACE ENVIRONMENT (J-MASE)

Sponsor/Start Date: Space and Missile Systems Center and USINDOPACOM/March 2019

Purpose: To develop, test, and validate standardized TTP for the use of Military Application of the Space Environment (MASE) decision aids during operational- and tactical-level mission planning and execution, providing a repeatable and scalable methodology for countering long-range threats.

Products/Benefits:
- Validated TTP utilizing MASE applications
- Enhanced decision-making tools to be used during operational and tactical planning
- Enhanced freedom of maneuver and survivability tools for air and maritime assets

JOINT OPTIMIZATION OF ELECTROMAGNETIC SPECTRUM (EMS) SUPERIORITY (JOES)

Sponsor/Start Date: USINDOPACOM/June 2018

Purpose: To develop TTP for the integration of joint electromagnetic spectrum operations (JEMSO) functions into a standing JEMSO Cell for CCMD's effective use of the EMS for assured friendly C2 and to degrade adversary capabilities.

Products/Benefits: TTP to support JEMSO Cell functions to develop an EMS superiority strategy, mitigate adversary's abilities to contest friendly operations, coordinate authorizations for friendly forces, and tailor EMS signatures to limit friendly vulnerabilities.

JOINT PROCEDURES FOR INTEGRATED TACTICAL WARNING AND ATTACK ASSESSMENT (ITWAA) OF HYPERSONIC GLIDE VEHICLES (HGV) (J-PITH)
(CLOSED JUNE 2019)

Sponsor/Start Date: Commander, NORAD-USNORTHCOM/ March 2018

Purpose: To develop and validate TTP to optimize the ITWAA C2 process to detect, identify, and characterize the hypersonic glide vehicle threat via the current space-based and terrestrial architecture.

Products/Benefits: TTP to optimize the ITWAA C2 processes; provide a means to identify and characterize HGVs employed by intercontinental ballistic missiles, intermediate-range ballistic

missiles, and medium-range ballistic missiles; and define the roles and responsibilities among all stakeholders involved in the warning and assessment process.

JOINT RADIO FREQUENCY-ENABLED CYBERSPACE OPERATIONS (JRF-ECO) (CLOSED NOVEMBER 2018)

Sponsor/Start Date: USSTRATCOM and USINDOPACOM/ June 2017

Purpose: To develop necessary processes for the C2 of RF-enabled cyberspace operations (RECO) by theater supporting Combat Mission Teams; these processes will serve as a baseline CONOPS.

Products/Benefits: Validated joint baseline CONOPS that will enable Combat Mission Teams to remotely manage air-delivered, bi-directional RECO in order to degrade and disrupt an adversary's use of their cyberspace capabilities.

SITUATIONAL POSITIONING OF LONG DWELL, LONG DURATION (LD2) INTELLIGENCE, SURVEILLANCE, AND RECONNAISSANCE (ISR) – CONCEPT OF OPERATIONS (CONOPS) EVOLUTION (SPLICE)

Sponsor/Start Date: U.S. Southern Command (USSOUTHCOM)/October 2018

Purpose: To develop TTP for selecting and setting the initial deployment locations and waypoints of LD2 assets using the LD2 mission management module; executing thin line C2 positioning and navigation of LD2 assets during operations based on real-world conditions and other Joint Interagency Task Force South reporting; and de-conflicting and executing tasking of unallocated LD2 sensor times.

Products/Benefits: TTP will contribute to the critical USSOUTHCOM mission set: detection and monitoring of surface and sub-surface targets of interest engaged in the trafficking of illegal commodities for U.S. and partner nation interdiction and apprehension.