

**Joint Deployment Distribution Enterprise (JDDE)  
Call for Government-proposed  
Research, Development, Test and Evaluation (RDT&E) Projects, FY14-19**

United States Transportation Command (USTRANSCOM) is soliciting government organizations for RDT&E projects to address applicable Distribution Process Owner (DPO)/Joint Deployment and Distribution Enterprise (JDDE) Capability technology gaps. This solicitation is for projects starting in FY14 through FY19 with approximately \$10M available for new start efforts.

*This is a normally a two-phase selection process but due to compressed time-line, there will only be a Phase II (full 20-page proposal – Appendix 4 is proposal format) call.*

Those submitting proposals are encouraged to speak with USTRANSCOM subject matter experts (SME) to discuss their proposal, details of the USTRANSCOM need, and other factors to improve the quality of the proposal and to better determine commitment to sponsorship and transition. USTRANSCOM's RDT&E Team will assist in SME identification.

2012 Deadlines are as follows:

31 Jul 12 1600 (CST) -- Submittal of electronic full proposals (to addresses below). Late submissions will not be considered.

28 Dec 12 -- Notification of final selection (due to multi-month collaborative vetting process)

Appendix 1 contains the highest-priority needs identified by USTRANSCOM, its Service components, and the JDDE community. Additional technology gaps can be found at <http://www.transcom.mil/rdte/>, proposals addressing those technology challenges are a lower priority but will be considered.

Projects should be described in terms of the appropriate Technology Readiness Level (TRL). In general, projects should start at TRL level 4-6 (Budget Activity 3, Advanced Technology Development) for best likelihood of success in the selection process. Proposals to merely extend an existing capability, or modernize it (such as preplanned product improvement (P3I)) fall in the acquisition/procurement area, are beyond TRL 8, and are not candidates for USTRANSCOM RDT&E funding. TRL definitions/descriptions found in USTRANSCOMI 61-1 at <http://www.transcom.mil/publications/pubs/2037-I61-1.pdf>.

Proposals most likely to be chosen by the government will demonstrate a significant number of project selection criteria listed at Appendix 3. Prior experience demonstrates that relatively short-duration projects (up to 3 years), concentrating on prototyping *and transitioning/integrating* a new "component" capability within existing JDDE systems, architectures and programs/systems of record, are likely to be most competitive. Proposers *may* submit proposals for multi-year programs of research and development, but should be aware longer-duration efforts face significant challenges finding a transition sponsor and funding.

If multi-year/multi-project efforts are proposed, offerors should identify a baseline project, (including, if appropriate, a start-up engineering feasibility study) with optional follow-on efforts to be selected by USTRANSCOM, based on assessment of the success of earlier segments, continued interest in proposed capability, and the availability of funding for development and a sponsor for transition.

Proposing organizations should plan to execute approved projects through their own contracting and technical/management oversight capabilities and facilities. USTRANSCOM will provide RDT&E funding via appropriate government funding vehicle. USTRANSCOM requires monthly report of funds (obligations/outlays) and semi-annual programmatic briefings.

The proposer, with assistance of the Government sponsor, is responsible for designing and executing a transition strategy, which should include detailed planning with programs/systems of record to move the new technology out of the development environment into system program office work and/or into operational use.

If the submitting government agency is sponsoring a project to be developed with an industry or academic partner, those outside agencies should be apprised that USTRANSCOM contractor personnel (including but not limited to The MITRE Corporation, LMI Government Consulting, CGI Federal, and others) may act as advisors to the selection process. Contractors advising USTRANSCOM in this evaluation have already signed, or will be required to sign, non-disclosure agreements prior to accessing proprietary materials.

If the proposer wishes to submit a classified proposal, first contact below Points of Contact at phone/e-mail/address listed below.

Send correspondence to [USTC-TCJ5J4-RDTE-Lst@USTRANSCOM.mil](mailto:USTC-TCJ5J4-RDTE-Lst@USTRANSCOM.mil).

**Points of contact:**

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4 Appendices (Attached)

1. Technology Needs/Focus Areas for FY14
2. JDDE Capability Gaps/Sub-gaps
3. USTRANSCOM RDT&E Project Selection Criteria
4. USTRANSCOM RDT&E Phase II Project Selection Process (proposal format)

## **APPENDIX 1**

### **Technology Needs/Focus Areas for FY14**

**Agile Transportation for the 21st Century**-USTRANSCOM is seeking research partners with experience in decision analysis support for transportation optimization solutions. Areas of interest for force movements include evaluation of flow effectiveness (e.g., based on closure times), flow efficiencies (e.g., in terms of cost, fuel usage), and Course of Action (COA) robustness (w.r.t. weather/maintenance risks). Additional areas of analysis might include limiting factors, sensitivity analysis w.r.t. uncertainty, and effects of alternative port usage. Prototypes could be demonstrated that provide the ability to dynamically re-plan as requirements and priorities change; allow users to visualize movement plans in terms of throughput (e.g., via port simulation), or allow users to re-plan as throughput varies (e.g., with port or assets changes). For deployment and distribution forecasting, areas of analysis might include projection of asset utilization and necessary capacity buys.

**Expeditionary capability to offload military equip** - Seeking technologies that support a heavy duty, deployable system that would be suitable for Civil Reserve Air Fleet (CRAF). These capabilities will include portable vehicle loading ramps for rapid offload of vehicles and portable highline docks to support offload of palletized pallet trains, enabling more rapid turnaround of loaders for quicker aircraft offloads. Research capability to rapidly en-plane and de-plane patients to and from CRAF Aeromedical Evacuation (AE) aircraft. The Patient Loading System (PLS) was not designed to function in the manner it has been employed over the past 10 years and is therefore not the best capability. Existing system extends ground time significantly due to the low number of patients that can be loaded at a time. Newer and enhanced technology will better serve the AE and en route care system during future engagements.

**Automated Hazardous Materials Processing** - The use of automated tools and technology will greatly enhance the processing and reduce loading time of combat units. The ability to quickly identify chemical and component incompatibilities will facilitate speedier loading of vehicles, pallets, and other cargo needed for quick air transport.

**Routing of Mobile Units Cargo** - Improve the selection of "ship to" addresses for mobile units as it relates to providing time sensitive routing/supply sourcing addresses within overseas theaters for cargo delivery/sourcing locations.

**Container Management** – The Joint Deployment & Distribution Enterprise requires an automated container asset reporting capability to globally manage and track both carrier-owned and government-owned/leased containers as accountable assets. The goal is to achieve 100% accountability of every government-owned container being used by the DOD and within reason and financial constraint, achieve the highest possible accountability of every carrier-owned container used by the DOD. Currently, DOD relies on information management systems that require extensive manual data entry and manpower-intensive processes to manage, inventory and track containers. Automated reporting would significantly reduce most work done in manually inventorying containers and nearly eliminate human error/omission from the inventory process, resulting in an infinitely more accurate picture of which containers are on hand, their status (loaded or empty), condition (serviceable or not), and life-cycle management data for government-owned containers such as last/next inspection dates. The capability or suite of capabilities should dovetail with current industry practices for carrier-owned containers, favor permanence in reporting vice repeated tag-burning and external tag-placement where possible, minimize the need for ground infrastructure, and leverage reach-back capabilities to retrieve data as opposed to “burning” the data on a reporting device. USTRANSCOM is seeking innovative solutions to eliminate today’s manual container inventory process, while also supporting the development and fielding of a single Joint Container Management Capability that will provide DOD one automated source for all users to access and perform all aspects of container management.

**Cargo Screening** - Seek technologies that will screen cargo for Chemical, Biological, Nuclear, explosives and tampering. Technology interests are in those systems with stand-off detection capabilities and/or fixed detectors which allow for detection before endangering personnel and/or resources. Interests include technologies that when applied detect access attempts and can be monitored for intrusion or tampering not exclusive to door.

**Determine and Coordinate Convoy Security** - The theater commander has not always been able to provide the appropriate security in a timely manner during movement from the Public Warehouse Company (PWC) to/from final destination. In some cases, there are insufficient security assets to oversee convoy security in-country and, therefore, all movement requirements are competing for the same limited resources.

**Force Protection/Force Health Protection/Physical Security** - Terrorism and asymmetric warfare *as well as* emerging infectious diseases pose an ever-present threat to our nation's strategic mobility assets (personnel, equipment, and mobility assets) and their embarked cargo, equipment, and personnel. This broad technology area of interest supports proposals to counter these types of threats and hazards. Of particular interest is the application of technology to create virtual borders at the point of loading; screen cargo for smuggled goods and explosive, chemical, and biological threats; decontamination of transportation assets; provide early detection of container breach (by any means) or tampering not exclusive to door (subsequent to closing container door), and enhance seaborne and air cargo container standards.

**Identification of "Slow and Low" Cyber Threats** - In the cyber domain, threats to the network will come in many forms. New Command and Control systems and IT solutions, as well as greater deployment of network sensors will increase the variety and amount of data that must be analyzed. New technologies are needed to automatically mine massive datasets to identify and help understand the nature of increasingly sophisticated attacks / threats that are characterized as "slow and low". These threats move stealthily from one compromised host to the next, without generating regular or predictable network traffic. Additionally, novel visualization tools that incorporate Human Factors Engineering Best Practices are needed to enable a comprehensive understanding of these types of attacks.

**Multi-level Cyber Defense** - USTRANSCOM must have the ability for the computer and communication networks of its combatant commands, and component commands to interface and interact in a secure and high-assurance manner with the computer and communications networks throughout DoD. The networks of USTRANSCOM must be hardened against attack using the state-of-the-art theory of network science. Methods of separation of High from Low data must be assured through the use of high-assurance computing and network theories and devices by USTRANSCOM. A particular concern to such multi-level and intertwined C2 systems is that of hidden communication. This threat may be an embedded covert channel leaking information from the classified to unclassified environment, or steganographic techniques that may hide information in something as mundane as an attached image. The ability to detect, and thwart such hidden communication and information is essential to the networked infrastructure of USTRANSCOM. USTRANSCOM seeks proposals addressing these threats both from a prevention, detection and amelioration standpoint.

**NOTE:** Additional technology gaps can be found by accessing the USTRANSCOM RDT&E Handbook (USTRANSCOMH 60-2) under "References" tab at <http://www.transcom.mil/rdte/>, proposals addressing those technology challenges are a lower priority but will be considered.

## APPENDIX 2

### JDDE Capability Gaps/Sub-gaps

#### 1. Visibility

There is insufficient timely and accurate information on the location and status of materiel and transportation assets. Stakeholders throughout the distribution process require the ability to determine shipment status through system/service access, automatic information technology (AIT) or event management. There is a lack of end-to-end materiel asset visibility and transportation process inefficiencies exist between nodes in the DOD supply chain. Stakeholders need the capability to view the status and availability of all materiel and transportation assets in-storage, in-transit, or in-repair, detect pipeline bottlenecks and provide recommended alternatives to overcome the bottleneck.

Total Asset Visibility (TAV) is not adequately supported and often requires manual workarounds due to disparate systems, lack of awareness, access, and training.

- The DOD Radio Frequency Identification (RFID) Policy dated 30 Jul 04 has no provisions for bulk petroleum.
- The issuing and ordering activities have little or no visibility of the movement of Class IV materiel once it has left the Port of Debarcation (POD). There is no over-arching system to provide all stakeholders with visibility of Class IV movement within theater. This lack of visibility limits the issuing activity's ability to respond to routine customer requests for updated shipment information in a timely manner.
- In-Transit Visibility (ITV) systems do not provide event management. Issues are revealed only after problems are experienced, investigated, and reported. Supply chain managers handle exceptions in a manual and reactive manner.
- Duplicate and disparate TAV system capabilities exist
- Lack of ITV systems/services awareness, access, and training exists

#### Sub-gaps:

Common Data Governance	1
Common Architecture	2
Bandwidth/Connectivity	3
Common User Movement Schedules	4
Business Event Capture	5
Tracking of Consolidated Orders	6
Data Quality	7
Single Aggregate View	8
Exception Handling/Event Management	9
User Access and Training	10
Transportation Closure	11

#### 2. Distribution Systems Interoperability

Transportation information exchange across the DOD is inhibited by the disparity of systems, differing data standards and insufficient interfaces. Queries and retrieval of movement status and shipment information cannot be executed due to lack of connectivity between the various components of the supply chain.

- There is no single, shared, enterprise view(s) of transportation due to disparate, yet similar systems to serve individual Services, agencies, and other commands.
- Shipment-unit detailed information is lost due to manual data entry, because there is insufficient system interface between Transportation Coordinators-Automated Information for Movement System II (TC-AIMS

II), Integrated Computerized Deployment System (ICODES), and World-wide Port System (WPS) Manifesting systems for vessels.

- Source systems use different data standards making aggregation in ITV systems difficult, and often inaccurate.
- Cargo Movement Operational System-Theater Distribution Center (CMOS-TDC) cannot read Global Air Transportation Execution System (GATES)-produced Radio Frequency Identification (RFID) tags.
- Item detail shipping information from Standard Asset Tracking System (SATS) is not transferred to CMOS for transportation booking.
- Automated Airload Planning System (AALPS) not used for USAF load planning due to software conflicts with Microsoft Windows.

**Sub-gaps:**

Common Data Governance	1
Common Architecture/Single Aggregate View	2
Shipment Detailed Information	3
Parent-Child Shipment Information	4
Joint Retail Inventory Interoperability	5
AALPS Software Conflicts	6
CMOS and GATES Communication	7
GATES RF Tags	8
Distribution Network Analysis	9

**3. Distribution Planning and Forecasting**

There is a lack of collaborative distribution planning, based on an understanding of aggregate customer requirements, for optimizing the End-to-End (E2E) distribution process. E2E distribution planning and forecasting efforts are not synchronized. There is a lack of properly trained personnel, established procedures, and transportation/materiel assets to execute the distribution plan. There is limited ability to conduct synchronized strategic and theater deployment and distribution planning/optimization employing demand forecasts. There is a limited E2E requirements process for the movement of sustainment cargo. There is a limited ability to discern and act on theater capacity-based movement demands.

- Warfighters have no single, integrated view(s) of force movement and sustainment planning requirements.
- Originating, intermediate, and final destination transportation nodes are unable to optimize outbound distribution due to insufficient advanced inbound notification.
- Poor synchronization, lack of ITV, and stove-piped Command and Control (C2) exists at the Aerial Port of Debarkation (APOD) and Sea Port of Debarkation (SPOD) where transition occurs from strategic movement to theater movement.
- Transportation forecasts are inaccurate and do not include near-term and future customer requirements; instead, forecasts rely too heavily on historical transportation demand. Forecast accuracy is not validated or measured.
- Intermediate distribution nodes do not have the trained people, capabilities (refrigeration), and capacities needed to support the distribution of medical materiel. The Distribution and Transportation Management organizations and units (including the Deployment Distribution Operation Center (DDOC) and the Joint Deployment Distribution Operation Center (JDDOC) do not collaboratively plan with Class VIII subject matter experts for E2E routing, transportation, handling, and delivery of medical materiel. This collaboration specifically includes the consideration of intermediate distribution and transshipment node capabilities and limitations when planning the routing of forward, return, and retrograde movements.
- Planning and coordination of the Class VIII distribution and transportation activities is not performed under a synchronized concept of operations with the input of Class VIII subject matter experts.

- Individual transshipment nodes in the supply chain, including intermediate APODs and transportation transfer points, are accountable to separate organizational Commands and/or Service Components. Each of these Commands/Components maintains individual performance objectives and incentives that are not synchronized with the unique needs of the commodity’s distribution requirements.
- Medical Transportation Managers are not able to synchronize load movement with available air capacity when scheduling loads, though they are able to review pipeline capabilities. The process to influence and optimize movements, which is used on a recurring basis, requires multiple layers of approval authority. This causes the Medical Transportation Manager to miss opportunities to utilize the available capacity.

**Sub-gaps:**

Sustainment Planning and Forecasting	1
Force Movement Planning and Forecasting	2
Integrated Theater Multi-Modal Capability	3
Multi-Modal Priorities	4
Theater Movement Capability Demand	5
Theater Lift Capability Forecast	6
Enterprise D2 Demand Forecasting Optimization	7
Transportation Node Optimization	8
Class VIII Planning and Coordination	9
APOD and SPOD C2	10
Retrograde Scheduling and Preparation	11
Predictive Equipment Failures Forecasting	12
Management of Integrated/aggregated joint D2 Requirements	13
Synchronized Medical Load movements	14

**4. Requisition Priorities**

Current processes and systems permit nearly unconstrained use of high movement priorities, which in turn gives the requestor (customer) unrealistic expectations and an invalid Required Delivery Date (RDD). There is limited ability to identify priority of movements across movement categories, modes and levels/echelons. The JDDE needs a more accurate and realistic process for the assignment of customer priorities.

**Sub-gaps**

RDD Constraints	1
Priority System Service Level of Differentiation	2
Customer Feedback on Changes	3

**5. Process Management and Business Rules**

Joint process descriptions and business rules either do not exist or are unclear for many key deployment and distribution processes. A lack of well-defined, integrated process descriptions cause shipment delays, waste resources and undermine efforts to streamline the supply chain. Unclear or non-existent business rules lead to breakdowns in organizational lines of communication.

**Sub-gaps:**

Process Description and Business Rules for Movement	1
Cargo Booking	2
Commercial Cargo Integration	3
Movement of Non-DOD Goods	4
Customer Returns	5
Legal, Regulatory Updates/Customs Clearance Procedures	6
DOD Activity Address Codes Management	7
Cargo Screening	8
Pallet Build Business Rules	9
CL VIII Material Handling	10
JDDOC Authorities	11
Determine and Coordinate Convoy Security	12
Mail Delivery	13
Receipts and Accountability	14
Defense Transportation System (DTS) Expansion	15

## 6. Distribution Performance Metrics Strategy

Distribution performance metrics are inconsistent, unclear, and insufficient. There are insufficient shared data sets, collaborative capability, or common metric scorecards. Different stakeholders require various levels of precision. No standard metrics or methods exist across supply chain organizations to evaluate performance.

### Sub-gaps

Performance Measurement	1
D2 Performance Assessment	2
Collaborative Capability	3
Carrier Performance and Availability	4
Customer Service	5

## 7. Container Management

The JDDE has a requirement to control and track containers and minimize detention fees globally. Current processes, systems, tools and/or performance metrics are not sufficient.

### Sub-gaps:

Global Container Management Policies	1
Common Information Management	2
Global Organizational Plan	3
Marking, Labeling, and Tagging Processes	4

## 8. Contracts/Acquisitions Methodology

Certain contract mechanisms and acquisition methods are inappropriate and unreliable.

### Sub-gaps:

Heavy Weight Commercial Tender	1
CL III Transportation Responsibility	2

## 9. Coalition/Multi-National Interagency Capabilities

The JDDE community limits participation of other US government agencies and the transportation industry when conducting Joint and Combined exercises and simulation planning. Interaction with key national partners is seldom practiced during exercises. Key partners such as Department of State, MARAD, DLA, DESC, and the transportation industry are often excluded from exercise and simulation planning resulting in missed opportunities for valuable interaction and insight. The JDDE lacks the capability to generate, manage, share and distribute coalition/multi-national/inter-agency movement requirements.

### Sub-gaps:

Coalition/Multi-National/Interagency movement requirements	1
Coalition/Multi-National/Interagency movement visibility	2

## 10. Professional Joint Logistics Workforce Development

The DOD does not have the requisite cadre of joint logisticians who understand the E2E deployment and distribution process necessary to execute desired joint effects. There are no specific requirements for joint logisticians including competency models, career paths, and training requirements. The JDDE must expand the definition of joint logistics training to one that includes interagency, intergovernmental and multinational partners and more effectively uses innovative technologies.

### Sub-gaps:

Career Paths and Skill Specialty Designators	1
COCOM E2E Competency Models and Bullets	2
Knowledge Management	3
Core and Specialty Training Curricula	4
Operators' Motivation and Rewards	5

## 11. Supply Chain Simulation Tools

Joint simulation tools are rarely used and poorly equipped or integrated into sustainment flow modeling at the strategic and operational levels (wholesale and Service-level retail). The Joint and Combined Forces have a requirement for simulation tools for sustainment flow modeling at the strategic and operational levels (wholesale and Service-level retail). Current tools are rarely used and poorly equipped or integrated. There is little capability to do unconstrained "what-if" supply scenarios without manual effort. Operational Planners at Regional Combatant Commands (RCCs) have Force Flow modeling / simulation capabilities, but lack this capability for sustainment planning.

### Sub-gaps:

Organizational Constructs	1
Supply Chain Sustainment Simulation Tools	2
Supply Chain Simulation Tool Simulation Capability-Solutions	3
Process and System Training	4

## APPENDIX 3

### USTRANSCOM Research, Development, Test, and Evaluation Program Project Selection Criteria

Award decisions will be based on a competitive selection of full proposals from subject matter experts and/or scientific/technical reviews.

1. JDDE GAPS, areas of interest, and focus areas that this proposal targets.
  - a. Were high priority gaps targeted as listed in Appendix 1 and 2?
  - b. What are the target JDDE GAPS, areas of interest, or focus areas?
  - c. How do specific technological capabilities enhance distribution, transportation, planning/execution, and decision support processes?
2. Applicability to Joint Deployment Distribution Enterprise
  - a. Transformational potential (versus “modernization”)
  - b. Joint capability crucial to DOD supply chain
  - c. Not associated with major weapon system or end item acquisition program
3. Potential ROI and Affordability
  - a. Shows significant positive ROI in lifecycle of application
  - b. Demonstrates a compelling business case for use
4. Technical Merit: Utilizes sound scientific/engineering principles, assessed by pertinent experts.
5. Technical Maturity
  - a. Project demonstrates Technology Readiness Level 4-6 at startup
  - b. Project demonstrates TRL advancement commensurate with funded level of effort, but not beyond TRL 8 at conclusion
6. Programmatic
  - a. Project plan demonstrates well-defined, defensible, and properly interrelated cost, schedule, and performance objectives
  - b. Project is structured in achievable phases or spirals with clear deliverables
  - c. Project demonstrates well-defined exit criteria, performance goals, and well-defined deliverables (studies, hardware or software prototypes, experimentation results, etc.
7. Technology Transition Potential
  - a. Project has committed transition/integration agency, defined by provision of project manager or owning agency and identifies committed funding for next steps or transition to further development work.
  - b. Project plan demonstrates adequate understanding of integration requirements if intended to transition to operational use, or presents clear methodology for determining those requirements during the course of research.

## APPENDIX 4

### USTRANSCOM RDT&E Two-Phase Project Selection Process

#### Formats and Content for Proposals

The likelihood of the success of proposals will be increased by clearly demonstrating that the capability to be researched/developed covers an important need; that the proposer understands the Joint Deployment and Distribution Enterprise domain and its challenges; and the technical, programmatic, integration, and sustainment challenges of the proposed capability can demonstrate a positive return on investment; and has an experienced/skilled team of researchers who will do the developmental work.

***Phase I*** requires submittal of a “white paper.” **NOT REQUIRED FOR THIS CALL**

***Phase II*** requires submittal of a “proposal” (up to 20 pages). Proposals will include definitive technical, cost, and ROI analysis for USTRANSCOM to evaluate. Selection is dependent on sound analysis and is subject to the availability of funds. Format commences on next page.

## Phase II – Full Proposal (20-page limit)

The proposal shall be formatted as stated below. Submittal shall be in Times New Roman font of at least 12 points printed in portrait format. Lines may be single-spaced, though double-spaced is preferred. Pages shall include a 1-inch margin at top, bottom, and both sides. A Footer within the 1-inch bottom margin containing page number, submittal title, proposer's company name, and appropriate classification or proprietary notice shall be included and must be in 8-point Times New Roman font. Page limits within each element of the body of the proposal are recommendations; the proposer may utilize the 20 pages allotted as deemed best to describe the proposed project. The cover page and optional appendix are not included in the 20-page limit.

### Cover Page

Include title and short title, point(s) of contact, phone number(s), fax and email, date, government sponsor/agency name, estimated total cost and cost per year of performance, and notice of intellectual property content, security level, and other necessary markings. Include an illustration/picture that best depicts the effort. This cover page itself should not contain proprietary or otherwise sensitive information.

### 1. General Project Summary (1 page):

- a. Describe the critical USTRANSCOM JDDE capabilities which the project addresses. Describe the current system/interface, capability, or process deficiency that the proposal addresses. Describe the operational gap or issue addressed and how the development effort contributes to the solution. Describe the specific deliverables of the RDT&E effort (for example, analysis, report, prototype, experimental results of demonstration, etc.)
- b. Identify the technologies to be explored/developed, the end user, and how the technology will enhance that user's capabilities. Consider including a mission scenario, vignette, or Operational View (OV-1) illustration here.
- c. List the information technology and/or hardware/platform/vehicle systems/corporate services/interfaces (potential programs or systems of record) with which the technology may be integrated.

### 2. Requirements Traceability (1 page):

- a. Identify the formal requirements, program directives, Joint Capabilities Integration and Development System products, Distribution Process Owner gap, or other formal source of requirements for the effort at the Joint or Service level. Higher priority will be given to those projects that address a Technology Need/Focus Area identified in the annual USTRANSCOM RDT&E Call for Proposals. Proposals should address the applicable Joint Capability Area (JCA), Tier IV, Logistics, capabilities and will be evaluated against JDDE attributes, Key Performance Indicators (KPI) or Enterprise-level metrics, as outlined in the following paragraphs. If no Tier IV capability applies, then identify the appropriate Tier I and II capability area. Definitions can be found in Chairman, Joint Chiefs of Staff Instruction 3170.01 series, as well as USTRANSCOMH 60-2 for Tier I and II areas. Tier I and II JCA capabilities will be evaluated separately.
- b. Expected operational uplift to the JDDE attributes listed below. For each attribute, provide a user-defined metric(s) supporting the proposed operational uplift, if applicable. The JDDE attributes are:
  - **Visibility:** Visibility is the capability to determine the status, location, and direction of flow for all forces, requirements, and materiel in the JDDE. Joint end-to-end visibility is required over operational capabilities and capability packages, organizations, people, equipment, and sustainment moving through the pipeline. It also includes the organic military mobility forces and commercial augmentation that move people and things through the pipeline, the financial transactions that support them, and the modes and links comprising the pipeline. Visibility requires the availability of timely, accurate, and usable information essential to the maintenance of a common operating picture within the overall distribution enterprise information network.
  - **Reliability:** Reliability is the degree of assurance of dependability that the JDDE will consistently meet its support requirements to specified standards. Reliability instills trust and confidence of the customer in the

certainty that the enterprise will meet warfighter demands under clearly established and recognized conditions.

- **Velocity:** Velocity is the speed and direction at which requirements are fulfilled by the JDDE. Rapidity is only one aspect of velocity. Requirements must be fulfilled at the right speed. This means that synchronization of the speeds of the various aspects of the distribution process is required in order to maximize effectiveness. Velocity also incorporates the ability of elements of the JDDE to forecast, anticipate, and plan distribution execution. A JDDE that has sufficient velocity meets performance expectations and satisfies mission requirements, as defined by the supported commanders' concept of operations.
- **Precision:** Precision within the JDDE means the accuracy with which delivery of forces requirements and materiel occurs at the right time, the right place, and in the right amount. Precision also addresses the ability of the JDDE to minimize deviation from acceptable standards as it reacts to dynamically changing conditions and requirements.
- **Survivability:** Ability of an organization to prevail in the face of potential destruction. To ensure continuity of support, critical logistics infrastructure must be identified and plans developed for its protection. Survivability is directly affected by dispersion, design of operation logistics processes, and the allocation of forces to protect critical logistics infrastructure. Examples of critical logistics infrastructure include industrial centers, airfields, seaports, railheads, supply points, depots, lines of communication, bridges, intersections, logistics centers, and installations.
- **Economy:** The amount of resources required to deliver a specific outcome. Economy is achieved when support is provided using the fewest resources within acceptable levels of risk. At the tactical and operational levels, economy is reflected in the number of personnel, units, and equipment required to deliver support. Among the key elements of the logistics principle of economy is the identification of unnecessary duplications and redundancies.
- **Capacity:** The capacity of the JDDE is defined by the physical quantity, size, mix, configuration, and readiness of its assets and infrastructure. Capacity is not a static attribute.

c. Expected uplift to JDDE Key Performance Indicators (KPI) or Enterprise level metrics listed below. For each KPI, address the expected uplift or impact, if applicable. The KPIs or Enterprise level metrics are:

- **Logistics Response Time:** The average actual cycle time consistently achieved to fulfill customer orders. For each individual order, this cycle time starts from the order receipt and ends with customer acceptance of the order.
- **Perfect Order Fulfillment:** The percentage of orders meeting delivery performance with complete and accurate documentation and no delivery damage. Components include all items and quantities on time using the customer's definition of on-time, and documentation – packing slips, bills of lading, invoices, etc.
- **Information Content and Quality:** The status, completeness, and accuracy of information data exchanged from document date to receipt.
- **Total Supply Chain Costs:** The fixed and operational costs associated with transportation costs, order management, material acquisition, inventory carrying, planning/finance, and information technology costs for deployment or distribution-related functions.
- **Latest Arrival Date (LAD) Performance:** Latest Arrival Date, applied to force movements Time-Phased Force Deployment Data (TPFDD).

d. Alternately, if no formal requirement can be identified (see A.2.8.5.1. above), identify any capability shortfalls from the USTRANSCOM RDT&E Handbook (USTRANSCOMH 60-2) not included in formal requirements documentation (previous criteria) that this project will address.

e. If no formal source of requirements exists, clearly describe the vision and/or a proposed Functional Area Analysis/Needs Assessment that is being addressed. Cite any pertinent exercises, operational experience, and/or experimentation. Definitions of analysis can be found in Chairman, Joint Chiefs of Staff Instruction 3170.01 series, *Joint Capabilities Integration and Development System*.

### 3. Project Suitability (2 pages):

a. Describe the anticipated results and the manner in which the work will contribute to enhancing joint defense distribution and/or transportation capabilities. Describe why the technology/capability sought is not purely a Service (Title 10) responsibility and, therefore, qualified for joint USTRANSCOM RDT&E funding.

b. Demonstrate why the project is innovative/transformational and, therefore, worthy of joint RDT&E funding and not simply an upgrade or modernization of an existing capability. Show the TRL at project start and anticipated TRL at project conclusion.

c. Describe what steps were taken to ensure the effort is not duplicative.

**4. Return on Investment, Affordability, and Business Case (5 pages):** Although this effort is research and development, the proposer must be able to demonstrate, at least quantitatively, that a favorable rate of return for the fielded capability is likely. A quantified ROI is more compelling than a subjective one. For projects of lower technological maturity, ROI/affordability can be based on broader assumptions and less-stringent criteria than would be expected for a go/no-go acquisition decision--as long as these assumptions are stated clearly. Where ROI/affordability of the fielded capability is tentatively projected at the outset, the research plan should explicitly contain activities to refine these measures and refresh the estimates at project completion. A business case for use should be described.

a. Assumptions: List assumptions associated with tangible and intangible costs which are being made about the project which affect (or make possible) the calculation of ROI and affordability.

b. Evaluation of Alternatives: Describe why this RDT&E effort is preferable to non-RDT&E approaches; list other courses of action (including non-materiel solutions) considered and why they are not recommended.

c. Business Case for Implementation/ROI: If possible, quantitatively estimate the cost to implement the proposed capability (lifecycle cost including RDT&E, development/test, procurement, and sustainment) and lifecycle ROI. Describe any existing systems/interfaces which may be retired or personnel support which may be reduced (and thus operating costs saved) by use of the technology. Also describe estimating methods or data sources which were used and how they contributed to the credibility of the cost estimate.

d. Applicability to Industrial Practices and Partnerships: Describe, if possible, instances where the proposed technical approach has been used by industry (e.g., best or innovative practices) and how the capability, if developed and fielded in USTRANSCOM's enterprise, may assist DOD in working more economically or seamlessly with its commercial and other supply chain partners.

#### **5. Technical Merit and Maturity (4 pages):**

a. Describe the technologies to be developed, their risks for fielding, and methods of better understanding or reducing those risks during RDT&E.

b. State the assessment of experts regarding technical merit of the approach. Is the approach based on sound scientific/engineering principles likely to succeed in achieving stated capabilities? What are the qualifications of the experts who make that judgment?

#### **6. Programmatic (4 pages):**

a. Cost, schedule, and performance are interrelated. This section is meant to show the schedule of activities for the RDT&E effort with accompanying funding requirements for each segment of the project and its deliverables.

b. Provide a detailed schedule, with start and end dates for major activities, appropriate decision point milestones, and completion dates for deliverables such as studies, prototypes, and other outputs of the research, for the entire



## **7. Technology Transition Planning (3 pages)**

- a. Describe steps the government must take to allow the timely transition and fielding of the capability once RDT&E is complete. Describe and justify interfaces with existing systems and why they cannot be replaced or integrated into standardized JDDE corporate services. Name the type of organization (lab, contractor, or System Program Office (SPO)) to which this technology should be transitioned for further development or fielding and P/SOR which will accept, integrate, and sustain this technology. Describe the level of commitment (if any) of that agency to accept the technology for transition/integration or sustainment purposes to include dedicated funding.
- b. Identify the organization(s) to which project funds, once approved, should be forwarded for management/execution of technology proposal.

## **8. Appendix (4 pages)**

The proposer may include a 4-page diagram, appendix, photograph, or other visual aid, not included in the body page count, to further describe the proposed RDT&E project and its deliverables, demonstrate understanding of the domain and the place the technology will have in it, or other illustrative facts. This appendix is meant as a visual aid or place for tables or lists, not as additional room for the text of the proposal.