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**OSD RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)**

Date: February 2006

APPROPRIATION/ BUDGET ACTIVITY  
RDT&E/ Defense Wide BA# 6

PE NUMBER AND TITLE

**0605100D8Z - Joint Mission Environment Test Capability (JMETC)**

Cost (\$ in Millions)	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Total Program Element (PE) Cost	0.000	0.000	10.600	7.156	9.093	9.813	10.699
P100 Joint Mission Environment Test Capability (JMETC)	0.000	0.000	10.600	7.156	9.093	9.813	10.699

**A. Mission Description and Budget Item Justification:** Adequate Testing of joint system acquisitions and net-centric capabilities is required for successful milestone decisions for capabilities with joint mission requirements.(e.g. the F-35 Joint Strike Fighter, the Deployable Joint Command and Control System, the Joint Command and Control, the Network Centric Enterprise Services, the Distributed Ground Station family of systems, the Global Combat Service Support Family of Systems, the Future Combat System, the Joint Tactical Radio System family of systems, DDX)

The Testing in a Joint Environment Roadmap was provided to the Staff of four Congressional committees in April 2005 by the Director, Operational Test and Evaluation in response to a request during testimony. Testing in a joint environment is a Department Policy that requires all programs, regardless of Acquisition Category demonstrate their joint capability early and throughout their respective development cycles. The Joint Mission Environment Test Capability (JMETC) program will implement the infrastructure capabilities defined in the Roadmap to provide testers and developers a robust nation-wide distributed engineering capability to "Test Like We Fight".

JMETC will create a common corporate networking capability to link live systems with virtual and constructive representations to generate a realistic joint mission test environment for the systems being tested. JMETC will be a widely applicable, persistent, service provider for Department acquisition and net-centric programs. A mature JMETC will provide the ability to lower the cost and speed development of major programs, and will provide significant added value to ACAT II/III/IV programs which typically cannot afford distributed testing alone, or compete for time with large programs. This common integration capability will ensure interoperability between JMETC and the Joint National Training Capability (JNTC), streamlining reuse of technical resources across test and training communities, and enabling combined test and training exercises. JMETC capabilities will eventually migrate to the Global Information Grid (GIG) as that capability matures.

JMETC will provide a readily available, repeatable, consistent, operationally realistic customer-defined joint mission test environment for systems engineering and testing, extensible to training and experimentation, in a timely and cost effective manner. JMETC's institutional funding will build, maintain, upgrade and operate the JMETC, and will pay for persistent availability of national connectivity for testing; data communications middleware, identification and enforcement of interface standards; common software tools and components; and a data archive and reuse repository. It will also fund JMETC program management, facilities, equipment, and operating costs. When the JMETC is established, customer funding will pay for the direct costs of the development, sustainment, and operating costs for systems and net-centric capabilities under test, consistent with the proven Department approach for development and operational testing. Key attributes of the JMETC include: persistency; interoperability; reuse; composability of distributed capabilities (reconfigurable infrastructure to meet customer requirements); M&S linkage (live-virtual-constructive integration); common support to both Service and Joint needs(universal data transport solution set). System engineering, training, and experimentation will all benefit from a universal JMETC developed for T&E.

The Test Resource Management Center (TRMC) will be the Department's corporate lead for JMETC, and will program for and oversee both its development and its operations. The TRMC will establish and oversee the centralized JMETC program office. The JMETC Program Manager will report to Director, TRMC, who is accountable to the USD(AT&L) for JMETC.

**B. Program Change Summary**

	FY 2005	FY 2006	FY 2007

R-1 Budget Line Item No. 119 Page 1 of 1

Exhibit R-2  
Budget Item Justification

UNCLASSIFIED

468

UNCLASSIFIED

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Previous President's Budget (FY 2006)			
Current BES/President's Budget (FY 2007)	0.000	0.000	10.600
Total Adjustments	0.000	0.000	10.600
Congressional Program Reductions			
Congressional Rescissions			
Congressional Increases			
Reprogrammings			
SBIR/STTR Transfer			
Other			10.600

**C. Other Program Funding Summary:** Not Applicable.**D. Acquisition Strategy:** Not Applicable.**E. Performance Metrics:** Not Applicable.

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OSD RDT&E PROJECT JUSTIFICATION (R2a Exhibit)							Date: February 2006	
APPROPRIATION/ BUDGET ACTIVITY RDT&E/ Defense Wide BA# 6			PE NUMBER AND TITLE <b>0605100D8Z - Joint Mission Environment Test Capability (JMETC)</b>				PROJECT <b>P100</b>	
Cost (\$ in Millions)		FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
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**B. Accomplishments/Planned Program:**

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**0605100D8Z - Joint Mission Environment Test Capability (JMETC)**PROJECT  
**P100****Accomplishment/Planned Program Title**

FY 2005

FY 2006

FY 2007

JMETC:

0.000

0.000

10.600

Initiate Phase I (FY2007-FY2011) which will begin development of the initial core technical capability and provide a provisional JMETC infrastructure foundation capable of supporting real-time test events in 2007 as follows:

- Initiate Development of Core Technical Infrastructure.

- Initiate Persistent Data Transport Capability. Establish persistent network connections on existing Department networks with applicable security agreements, and expend the needed communication bandwidth. Integrate initial test sites to the network in FY 2007. Connections will be determined on the basis of projected test schedules. Consolidate and optimize the Department's purchase of bandwidth for distributed testing, aligning the distributed testing network with the distributed training network to achieve economies of scale.

- Incorporate Middleware. Maintain and improve common integration software that was originally developed by the Central Test and Evaluation Investment Program (CTEIP). Optimized the common middleware for embedded instrumentation applications as an organic component of the weapons system or net-centric capability, to enable easier conduct of distributed testing throughout the acquisition process - from the laboratory, to the open-air range, and to the battlefield.

- Evolve Basic Interface Standards. Define common, open interface standards for testing laboratories, open-air ranges, system integration facilities, and simulations for specific test events, and enable alignment of the technical distributed laboratories, ranges, and simulations for specific test events, and enable alignment of the technical architecture for testing with the JNTC to promote interoperability and reusability among test and training assets.

- Begin acquisition/Development of software Tools. Provide functionality that allows the joint mission infrastructure to serve as a useful test environment and to operate efficiently and cleanly. Enable event planning, integration, and analysis. Include an assessment of commercially available software tools for utilization with the standard support tools, and development of new tools to satisfy shortfalls. Design analysis tools to assist evaluators in tracing the root cause of problems discovered to the individual causal system, during large system-of-systems test events.

-Initiate Data Archive. Store all of the persistent information associated with a test that takes place in the joint mission environment. Serve as a high-performance, distributed, temporally-organized database capable of supporting realtime queries.

- Initiate Reuse Repository. Store all the pertinent information regarding systems and net-centric capabilities that is either a part of the joint mission infrastructure, or interfaces with the joint mission infrastructure. Unify all the information necessary Defense and industry capabilities (virtual prototypes, threat simulations, Hardware-in-the-Loops laboratories, ranges, environment generators, etc.) so that it can be easily reused in future events.

- Establish Initial Customer Support. Provide single-face-to-the-customer support for use of JMETC. customer Support will be a central resource that provides customers with information about system capabilities and limitations; available nodes; models and simulations; and JNTC joint training events. Customer Support will assist acquisition program managers and operation Test Agencies (or other customers), as requested, in designing their test plans to exploit the joint mission infrastructure capabilities, and facilitate scheduling. It will maintain close liaison with the JNTC Joint Management Office to provide for coordination of the test community's participation in joint training events and exercised, as well as participation by the training and experimentation communities in test venues.

- Establish Management Office. Execute the development and enhancement of the technical infrastructure and coordinate its operations. Develop, operate, sustain, and modernize the technical infrastructure; provide configuration control; and provide program management services and customer support as required. Included a program manager, government labor travel and contractor support.

UNCLASSIFIED

471

UNCLASSIFIED

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RDT&E/ Defense Wide BA# 6

PE NUMBER AND TITLE

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PROJECT

**P100**

**C. Other Program Funding Summary:** Not Applicable.

**D. Acquisition Strategy:** Not Applicable.

**E. Major Performers** Not Applicable.

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