RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)									DATE June 2001	
APPROPRIATION/BUDGET ACTIVITY RDT&E, Defense Wide/BA 3							R-1 ITEM NOMENCLATURE Software Engineering Institute **PE 0603781D8Z**			
COST *(In Millions)*	FY2000	FY2001	FY2002						Cost to Complete	Total Cost
Total Program Element (PE) Cost	0.000	0.000	21.091						Continuing	Continuing
P781	0.000	0.000	21.091						Continuing	Continuing

(U)   A. Mission Description and Budget Item Justification

(U)   BRIEF DESCRIPTION OF ELEMENT

(U) Beginning in FY 2002, the funding for the Software Executive Institute's (SEI) program has been transferred from DARPA under PE 0602301E, Project ST-22 to OSD, PE 0603781D8Z. This transfer aligns the funding authority with the program management oversight responsibilities for the SEI program.

(U) Software is key to meeting DoD's increasing demand for high quality, affordable, and timely national defense systems. There is a critical need to rapidly transition state-of-the-art technology and best practices to improve the acquisition, engineering, fielding, and evolution of software-intensive DoD systems. This project funds the technology transition activities of the Software Engineering Institute (SEI) at Carnegie Mellon University. The SEI is a R&D Laboratory Federally Funded Research and Development Center (FFRDC) sponsored by the Office of the Under Secretary of Defense for Acquisition, Technology, and Logistics. It was established in 1984 as an integral part of the DoD's software initiative to identify, evaluate, and transition high leverage software engineering technologies and practices. The SEI fosters disciplined software engineering practices by DoD acquisition and life cycle support programs and by the industrial base where the bulk of defense software is produced. The Institute works across government, industry, and academia to: (1) improve current software engineering activities from both management and engineering perspectives; (2) facilitate rapid, value-added transition of software engineering technology into practice; and (3) evaluate and calibrate emerging software engineering technologies to determine their potential for improving the evolution of software-intensive DoD systems.

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(U) The SEI enables the exploitation of emerging software technology by bringing engineering discipline to software acquisition, development, and evolution. The SEI focuses on software technology areas judged to be of the highest payoff in meeting defense needs. FY 2000 focus areas were: Technical Engineering Practices (including Survivable Systems practices, Architecture-centered Software Engineering, and Commercial Off-The-Shelf (COTS)-Based Software Engineering); Enhanced Software Management Capabilities (including personal and team software development processes and Capability Maturity Model Integration (CMMI)); and accelerating Adoption of High Payoff Software Technologies.

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COST*(In Millions)*	FY 2000	FY 2001	FY 2002						Cost to Complete	Total Cost
Total Program Element (PE) Cost	0.000	0.000	21.091						Continuing	Continuing
SEI/ P781	0.000	0.000	21.091						Continuing	Continuing

(U)   **Project Number and Title:**

(U)   **PROGRAM ACCOMPLISHMENTS AND PLANS**

(U)   **FY 2002 Plans:**

(U) Software Engineering Technical Practices.

- At least one new emergent algorithm is being used to analyze and improve the survivability of at least one infrastructure application.
- Specification methods for survivable systems have been developed, including the definition of a mission lifecycle process for survivable systems. A preliminary set of survivability metrics is in use by at least two government organizations
- The Product Line Technical Probe, a method for evaluating an organization's readiness to develop a software product line, is in use by at least two DoD organizations, leading to a product line development effort within these organizations, with cost, schedule, and quality improvements typical of those experienced by commercial organizations.
- A new initiative dealing with predictable assembly of certified software components is underway, with at least two active collaborating organizations.
- Tool support for model-based verification is being provided make the use of these analysis and verification techniques more widely accessible.
($ 10.741 million)

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(U) Software Engineering Management Practices

- A CMMI lead assessor program has been established and authorized transition partners are conducting CMMI appraisals.
- The transition of the Team Software Process (TSP) into practice is accelerating, with at least ten organizations licensed to coach TSP teams and coaching at least ten organizations introducing TSP.
($ 4.350 million)

(U) Adoption of Software Technologies.
- Software engineering technology change management practices are in use by at least one DoD organization, who is accurately estimating and measuring the speed and cost associated with introducing software engineering innovations.
($ 3.500 million)

(U) Software Intensive Systems Collaboration Group Efforts

- A Software Collaborator's Group has been established to improve the state of practice in DoD software development and acquisition by helping to implement the November 2000 recommendations of the Defense Science Board Task Force on Defense Software.
- An Independent Expert Review assessment team will help program managers identify key issues and provide guidance for risk mitigation/management
($2.500 million)

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(U) **B. Program Change Summary**	**FY2000**	**FY2001**	**FY2002**	**Total Cost**
Previous President's Budget Submit	0.000	0.000	0.000	
Appropriated Value	0.000	0.000	0.000	Continuing
Adjustments to Appropriated Value				
a. Congressionally Directed Undistributed Reduction	0.000	0.000	0.000	
b. Rescission/Below-threshold Reprogramming, Inflation Adjustment	0.000	0.000	0.000	
c. Other	0.000	0.000	21.091	
Current President's Budget	0.000	0.000	21.091	Continuing

Change Summary Explanation

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(U) **Funding**: Beginning in FY 2002, SEI PE 0602301E currently funded in DARPA has been transferred to PE 0603781D8Z to align the funding authority with the management responsibility.

(U) **Schedule**:

(U) **Technical**:

(U) **C.** **Other Program Funding Summary Cost**

(U) **D.** **Acquisition Strategy**:

(U) **E.** **Schedule Profile**: