OSD RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2008

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE
RDTE, Defense Wide BA 05	**0605140D8Z - Trusted Foundry**

COST ($ in Millions)	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate
P014 Trusted Foundry	41.317	43.227	42.360	41.953	41.587	42.141	42.735

A. Mission Description and Budget Item Justification: The Trusted Foundry Program is a combined Department of Defense-National Security Agency (DoD-NSA) project to develop and manufacture Application Specific integrated Circuits (ASICs) for critical DoD systems in a secure industrial environment. The Trusted Foundry process assures ASIC integrity from development and design through final delivery from NSA designated ASIC production facilities. ASD (NII) designates critical DoD systems to participate in the Trusted Foundry program. Identified Program Offices coordinate with NSA Trusted Foundry Program Office to design and deliver ASICs meeting DoD system specifications. The ASICs are provided to DoD programs as Government Furnished Equipment (GFE).The DoD and NSA require state-of-the-art design and manufacturing processes to produce custom integrated circuits designed specifically for military purposes. DoD and NSA have determined that integrated circuits in critical/essential systems need to be procured from trusted sources in order to avoid counterfeit, tampered, sabotaged or suborned parts. Worldwide competition from state-subsidized manufacturing facilities (foundries) is making fabless semiconductor companies the norm in the U.S. Sophisticated off-shore design and software factories with engineering labor rates vastly less than engineering rates in the U.S. have resulted in outsourcing of many parts of the design of integrated circuits. These trends threaten the integrity and worldwide leadership of the U.S. semiconductor industry by eliminating many domestic on-shore suppliers and reducing access to trusted fabrication sources for advanced technology. These trends are alarming to those uneasy about maintaining U.S. national competitiveness, but are of acute concern to the defense and intelligence community. Secure communications and cryptographic applications depend heavily upon high performance semiconductors where a generation of improvement can translate into a significant force multiplier and capability advantage. Important defense technology investments and demonstrations carry size, weight, power, and performance goals that can only be met through the use of the most sophisticated semiconductors.

This program will provide NSA with the trusted state-of-the-art microelectronics manufacturing necessary to meet the performance and delivery needs of their customers while at the same time providing the Services with a cadre of trusted suppliers that will meet the needs of their mission critical/essential systems for trusted integrated circuit parts. NSA, in their role of Trusted Access Program Office has looked to commercial sources to satisfy their requirements. Access to trusted suppliers is imperative to ongoing and future DoD/NSA systems, and most centrally, Trusted Foundry access is absolutely necessary to meet secure communication and cryptographic needs.

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B. Program Change Summary	FY 2007	FY 2008	FY 2009
Previous President's Budget (FY 2008)	42.279	43.604	42.146
Current BES/President's Budget (FY 2009)	41.317	43.227	42.360
Total Adjustments	-0.962	-0.377	0.214
Congressional Program Reductions		-0.377	
Congressional Rescissions			
Congressional Increases			
Reprogrammings	-0.150		
SBIR/STTR Transfer	-1.018		
Other	0.206		0.214

C. Other Program Funding Summary Not applicable for this item.

D. Acquisition Strategy NSA has negotiated a "take or pay" contract with IBM with 10 one year options going through FY 2013. IBM will provide custom integrated circuit parts in production and prototype quantities to meet DoD/NSA leading edge integrated circuit needs. Additional suppliers of behind the leading edge production processes will be developed and accredited by DMEA and NSA as Trusted Suppliers to provide program managers the flexibility to acquire trusted parts appropriate to the minimum risk and vulnerability of their particular system needs. Process Intellectual Property will be obtained from trusted suppliers to assure the availability of parts over the long term.

E. Performance Metrics:

FY	Strategic Goals Supported	Existing Baseline	Planned Performance Improvement / Requirement Goal	Actual Performance Improvement	Planned Performance Metric / Methods of Measurement	Actual Performance Metric / Methods of Measurement
08						

Comment: All delivered parts will meet IBM standard commercial requirements. Any damaged or misprocessed parts will be replaced free of charge.

OSD RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2008

APPROPRIATION/ BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
RDTE, Defense Wide BA 05	**0605140D8Z - Trusted Foundry**	**P014**

COST ($ in Millions)	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate
P014 Trusted Foundry	41.317	43.227	42.360	41.953	41.587	42.141	42.735

A. Mission Description and Budget Item Justification: The Department of Defense (DoD) and National Security Agency (NSA) require state-of-the-art design and manufacturing processes to produce custom integrated circuits designed specifically for military purposes. DoD and NSA have determined that integrated circuits in critical/essential systems need to be procured from trusted sources in order to avoid counterfeit, tampered, sabotaged or suborned parts. Worldwide competition from state-subsidized manufacturing facilities (foundries) is making fabless semiconductor companies the norm in the U.S. Sophisticated off-shore design and software factories with engineering labor rates vastly less than engineering rates in the U.S. have resulted in outsourcing of many parts of the design of integrated circuits. These trends threaten the integrity and worldwide leadership of the U.S. semiconductor industry by eliminating many domestic on-shore suppliers and reducing access to trusted fabrication sources for advanced technology. These trends are alarming to those uneasy about maintaining U.S. competitiveness, but are of acute concern to the defense and intelligence community. Secure communications and cryptographic applications depend heavily upon high performance semiconductors where a generation of improvement can translate into a significant force multiplier and capability advantage. Important defense technology investments and demonstrations carry size, weight, power, and performance goals that can only be met through the use of the most sophisticated semiconductors.

This program will provide NSA with the trusted state-of-the-art microelectronics manufacturing necessary to meet the performance and delivery needs of their customers while at the same time providing the Services with a cadre of trusted suppliers that will meet the needs of their mission critical/essential systems for trusted integrated circuit parts. NSA, in their role of Trusted Access Program Office has looked to commercial sources to satisfy their requirements. Access to trusted suppliers is imperative to ongoing and future DoD/NSA systems, and most centrally, Trusted Foundry access is absolutely necessary to meet secure communication and cryptographic needs.

B. Accomplishments/Planned Program:

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Trusted Foundry FY2006 Accomplishments & FY2007 Plans	41.317		

FY2006 Accomplishments: New product developments provided over 150 different integrated circuits for the Army, Navy, Air Force, and DARPA to satisfy new and on-going programs. Over 10,000 wafers of production parts have been produced as follow-ons to prototype developments sponsored the previous year(s). Dedicated secure communications equipment was purchased to enhance security. Maintenance support for the facility infrastructure equipment in Vermont and New York was performed. OSD, NSA, DMEA & DSS began to assess supplier assurance processes leading to the accreditation of additional trusted suppliers.

FY2007 Plans: Provides additional integrated circuits for the U.S. Army, U.S. Navy, U.S. Air Force, and DARPA to satisfy new and on-going programs. Costs are projected to be higher due to increased number of parts estimated and cost increases necessary to procure advanced technology parts. Additional effort will be required to increase the number of trusted suppliers and to begin the acquisition of process IP and device codes to assure the long term availability of trusted parts. ASIC design support software, hardware and Intellectual Property will be obtained. Up to four ASIC designs will be supported at 65 to 90 nanometer minimum feature size. New product developments will occur, as well as production parts for some of the prototype developments sponsored the previous year(s). Maintenance support for the facility infrastructure equipment is also included.

Accomplishments/Planned Program Title:	FY 2007	FY 2008	FY 2009
Trusted Foundry FY2008 and FY2009 Plans		43.227	42.360

FY 2008/2009 Plans: Additional integrated circuits will be provided for the U.S. Army, U.S. Navy, U.S. Air Force, and DARPA to satisfy new and on-going programs. Costs are projected to be higher due to increased number of parts estimated and cost increases necessary to procure advanced technology parts. Additional effort will be required to increase the number of trusted suppliers and to continue the acquisition of process IP and device codes to assure the long term availability of trusted parts. ASIC design support software, hardware and Intellectual Property will be obtained to support eight ASIC designs at 65 to 90 nanometer minimum feature size. New product developments will occur, as well as production parts for some of the prototype developments sponsored the previous year(s). Special processing equipment for low volume manufacture will be developed. Maintenance support for the facility infrastructure equipment is also included. Facility modifications necessary to clear the IBM fabrication facility in East Fishkill, New York will be initiated.

C. Other Program Funding Summary Not applicable for this item.

D. Acquisition Strategy NSA has negotiated a "take or pay" contract with IBM with 10 one year options going through FY 2013. IBM will provide custom integrated circuit parts in production and prototype quantities to meet DoD/NSA leading edge integrated circuit needs. Additional suppliers of "behind the leading edge" production processes will be developed and accredited by DMEA and NSA as Trusted Suppliers to provide program managers the flexibility to acquire trusted parts appropriate to the minimum risk and vulnerability of their particular system needs. Process Intellectual Property will be obtained from trusted suppliers to assure the availability of parts over the long term. Special equipment will be developed to support the flexible manufacture of using these archived processes for extremely small quantities of parts over the lifetime of the systems in the field.

E. Major Performers Not applicable for this item.

OSD RDT&E COST ANALYSIS (R3)

February 2008

BUDGET ACTIVITY
5 - System Development and Demonstration (SDD)

PE NUMBER AND TITLE
0605140D8Z - Trusted Foundry

PROJECT
P014

I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Subtotal:												

II. Support Costs	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Integrated Circuits (Hardware)	MIPR	NSA	80932	24333	1-4Q	26024	1-4Q	25398	1-4Q	Cont.	Cont.	Cont.
IP (Software)	MIPR	NSA	32168	10000	1-4Q	10000	1-4Q	10000	1-4Q	Cont.	Cont.	Cont.
Security Upgrades	MIPR	NSA	16510	5714	1-4Q	5893	1-4Q	5696	1-4Q	Cont.	33813	Cont.
Certify Trusted Suppliers	MIPR	NSA		1270	1-4Q	1310	1-4Q	1266	1-4Q	Cont.	3846	Cont.
Subtotal:			129610	41317		43227		42360		Cont.	Cont.	Cont.

III. Test And Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Subtotal:												

IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Subtotal:												

OSD RDT&E COST ANALYSIS (R3)									February 2008		
BUDGET ACTIVITY **5 - System Development and Demonstration (SDD)**	PE NUMBER AND TITLE **0605140D8Z - Trusted Foundry**										PROJECT **P014**
Project Total Cost:	**129610**	**41317**		**43227**		**42360**		**Cont.**	**Cont.**	**Cont.**	

Schedule Profile (R4 Exhibit)

February 2008

BUDGET ACTIVITY
5 - System Development and Demonstration (SDD)

PE NUMBER AND TITLE
0605140D8Z - Trusted Foundry

Event Name	FY 07				FY 08				FY 09				FY 10				FY 11				FY 12				FY 13			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

Schedule Detail (R4a Exhibit)

February 2008

BUDGET ACTIVITY	PE NUMBER AND TITLE
5 - System Development and Demonstration (SDD)	**0605140D8Z - Trusted Foundry**

Schedule Detail	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Aggregate Volume Purchases	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q			
Visualization Software	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q			
Certify Trusted Suppliers	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 3Q			