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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305221F: <i>Network Centric Collaborative Targeting</i>
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COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	8.126	13.367	7.348	-	7.348	7.526	7.636	7.743	7.879	Continuing	Continuing
675197: <i>NCCT Core Technology</i>	8.126	13.367	7.348	-	7.348	7.526	7.636	7.743	7.879	Continuing	Continuing

Note
FY 2011 funding totals include \$6.1M requested for Overseas Contingency Operations (OCO).

A. Mission Description and Budget Item Justification

Network Centric Collaborative Targeting (NCCT) is the Air Force program of record responsible for developing core technologies to horizontally and vertically integrate Service, Joint, and Coalition ISR sensor systems both within and across intelligence disciplines (for example SIGINT to SIGINT or GMTI to SIGINT). NCCT software applications employ machine-to-machine interfaces and Internet Protocol (IP) communications to coordinate sensor cross-cues and collection activities. NCCT correlation and fusion services ingest collection data to produce a single, composite track (geolocation and ID) for high-value targets. NCCT Research and Development funding supports evolutionary development of the NCCT message set and network management systems (Operations Interface, Network Controller, Fusion Engine, Data Guard, Interface to Command and Control and the Interface to Airborne Overhead Cooperative Operations), the migration of the NCCT technologies to emerging network centric technologies (e.g. service-oriented architectures and web services), and satisfying DoD standards and information assurance requirements.

Current NCCT-enabled systems and programmed development efforts include RC-135 RIVET JOINT, C-130 SENIOR SCOUT, EC-130H COMPASS CALL, U2/DCGS (SIGINT components), AOC (baseline workstations and Joint Automated Deep Operations Coordination System (JADOCS) interface), Vehicle and Dismount Exploitation Radar (VADER), Gorgon Stare QRC, MC-12W, EP-3C, P-3C, and Airborne Overhead Cooperative Operations. Any prospective NCCT-enabled Coalition, Joint, or Service system is required to fund its respective integration, core technology improvements/upgrades to support system integration, and the infrastructure to support the system's NCCT operational employment.

The NCCT Program Manager will promote and facilitate the planning, demonstration and prototyping of capabilities, systems, and platforms in the approved Capabilities Production Document or designated by the Requirements Review Board toward the objective of inclusion and full participation in NCCT. In addition, FY 2011 OCO funding was provided for the development of a Core Technology GMTI / SIGINT Correlator. A GMTI / SIGINT Correlator will enhance on going efforts to address current GMTI operational needs by providing multi-source GMTI to GMTI and GMTI to SIGINT correlation services within the Network Centric Collaborative Targeting (NCCT) architecture. The result will be NCCT composite tracks with both SIGINT (ID) and GMTI (moving track/Doppler characteristics) components which will improve the find-fix-finish timelines against mobile and dismounted forces the Joint Force is encountering in current OCO. A GMTI / SIGINT correlator for the NCCT fusion engine supports OCO real-time and forensic operations, accelerates High-Side (classified) message architecture to network OCO relevant sensor systems, and directly supports tactics, techniques and procedures (TTP) development for rapid operator use. The network service will accept and process network data from NCCT-enabled GMTI and SIGINT sources. These transactions will take place automatically in a machine-to-machine construct based on operator specified rule-sets. Activities also included studies and analysis supporting current and future program planning and project execution.

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APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305221F: <i>Network Centric Collaborative Targeting</i>
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This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

B. Program Change Summary (\$ in Millions)	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012 Base</u>	<u>FY 2012 OCO</u>	<u>FY 2012 Total</u>
Previous President's Budget	8.160	7.267	7.372	-	7.372
Current President's Budget	8.126	13.367	7.348	-	7.348
Total Adjustments	-0.034	6.100	-0.024	-	-0.024
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-0.034	6.100	-0.024	-	-0.024

Change Summary Explanation

FY 2011 funding totals include \$6.1M of Overseas Contingency Operations (OCO) supplemental funding to develop a Core Technology GMTI / SIGINT Correlator.

The program has been funded to latest cost estimate, less efficiencies. The reductions for efficiencies in FY12 are not intended to impact program content. Reductions for efficiencies may be spread to other Air Force programs at a later date. Amounts of the reductions are: \$.024M in FY12.

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force								DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 7: Operational Systems Development				R-1 ITEM NOMENCLATURE PE 0305221F: Network Centric Collaborative Targeting				PROJECT 675197: NCCT Core Technology			
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
675197: NCCT Core Technology	8.126	13.367	7.348	-	7.348	7.526	7.636	7.743	7.879	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

Note
FY 2011 funding totals include \$6.1M requested for Overseas Contingency Operations (OCO).

A. Mission Description and Budget Item Justification

Network Centric Collaborative Targeting (NCCT) is the Air Force program of record responsible for developing core technologies to horizontally and vertically integrate Service, Joint, and Coalition ISR sensor systems both within and across intelligence disciplines (for example SIGINT to SIGINT or GMTI to SIGINT). NCCT software applications employ machine-to-machine interfaces and Internet Protocol (IP) communications to coordinate sensor cross-cues and collection activities. NCCT correlation and fusion services ingest collection data to produce a single, composite track (geolocation and ID) for high-value targets. NCCT Research and Development funding supports evolutionary development of the NCCT message set and network management systems (Operations Interface, Network Controller, Fusion Engine, Data Guard, Interface to Command and Control and the Interface to Airborne Overhead Cooperative Operations), the migration of the NCCT technologies to emerging network centric technologies (e.g. service-oriented architectures and web services), and satisfying DoD standards and information assurance requirements.

Current NCCT-enabled systems and programmed development efforts include RC-135 RIVET JOINT, C-130 SENIOR SCOUT, EC-130H COMPASS CALL, U2/DCGS (SIGINT components), AOC (baseline workstations and Joint Automated Deep Operations Coordination System (JADOCS) interface), Vehicle and Dismount Exploitation Radar (VADER), Gorgon Stare QRC, MC-12W, EP-3C, P-3C, and Airborne Overhead Cooperative Operations. Any prospective NCCT-enabled Coalition, Joint, or Service system is required to fund its respective integration, core technology improvements/upgrades to support system integration, and the infrastructure to support the system's NCCT operational employment.

The NCCT Program Manager will promote and facilitate the planning, demonstration and prototyping of capabilities, systems, and platforms in the approved Capabilities Production Document or designated by the Requirements Review Board toward the objective of inclusion and full participation in NCCT. In addition, FY 2011 OCO funding was provided for the development of a Core Technology GMTI / SIGINT Correlator. A GMTI / SIGINT Correlator will enhance on going efforts to address current GMTI operational needs by providing multi-source GMTI to GMTI and GMTI to SIGINT correlation services within the Network Centric Collaborative Targeting (NCCT) architecture. The result will be NCCT composite tracks with both SIGINT (ID) and GMTI (moving track/Doppler characteristics) components which will improve the find-fix-finish timelines against mobile and dismounted forces the Joint Force is encountering in current OCO. A GMTI / SIGINT correlator for the NCCT fusion engine supports OCO real-time and forensic operations, accelerates High-Side (classified) message architecture to network OCO relevant sensor systems, and directly supports tactics, techniques and procedures (TTP) development for rapid operator use. The network service will accept and process network data from NCCT-enabled GMTI and SIGINT sources. These transactions will take place automatically in a machine-to-machine construct based on operator specified rule-sets. Activities also included studies and analysis supporting current and future program planning and project execution.

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APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 7: Operational Systems Development			R-1 ITEM NOMENCLATURE PE 0305221F: Network Centric Collaborative Targeting			PROJECT 675197: NCCT Core Technology					
This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.											
B. Accomplishments/Planned Programs (\$ in Millions)							FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: Core Technology							8.126	13.367	7.348	-	7.348
Description: Accomplishments and planned efforts include development and update of NCCT Core Technology software; technical support to users, and management activities											
FY 2010 Accomplishments: Continued core technology development for system version 4.2 and began initial development efforts for version 5.0. Also continued end user technical support efforts.											
FY 2011 Plans: Complete development efforts for version 4.2 and begin development of version 4.3. Begin development of GMTI/SIGINT Correlator. Continue core technology development version 5.0 and end user technical support efforts											
FY 2012 Base Plans: Will continue to develop version 5.0 and complete development of version 4.3 of the core technology systems and maintain technical support efforts											
FY 2012 OCO Plans:											
Accomplishments/Planned Programs Subtotals							8.126	13.367	7.348	-	7.348
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Cost To Complete
• PE 0305221F: NCCT, O&M	19.799	15.140	9.346	0.000	9.346	6.176	6.849	6.616	6.728	Continuing	Continuing
D. Acquisition Strategy											
The NCCT capability is maintained and sustained with baseline / incremental upgrades plus any quick reaction capabilities (QRC) developments acquired through the 645th Aeronautical System Group (BIG SAFARI Program Office) in accordance with the BIG SAFARI Program Management Directive (PMD) and the BIG SAFARI Class Justification and Approval (J&A) documents for acquisition of supplies and services. The procured supplies and services are supported by the BIG SAFARI Life Cycle Management Plan (LCMP) across the full spectrum of system life cycle management -- developmental engineering to system retirement ("cradle to grave" support). Due to the rapidly changing threat environment encountered during our prolonged commitment to Overseas Contingency Operations (OCO), the acquisition program manager has the authority to redirect funding as necessary to meet current stated and emerging Combatant Commander requirements.											

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305221F: <i>Network Centric Collaborative Targeting</i>	PROJECT 675197: <i>NCCT Core Technology</i>
<p>645 AESG, Wright Patterson AFB OH, manages the Cost Plus Fixed Fee (CPFF) contract used to develop the NCCT Core Technology. 645 AESG will develop NCCT software and common hardware to systems and platforms designated to field this ISR capability. Individual program management offices may contract directly with their prime contractors or through the 645 AESG for integration of this ISR capability on their respective systems and platforms. Current NCCT-enabled and programmed development systems include RC-135 RIVET JOINT, C-130 SENIOR SCOUT, EC-130 COMPASS CALL, AF DCGS/U2, AOC, Gorgon Stare QRC, MC-12W Liberty Project Aircraft, Vehicle and Dismounted Exploitation Radar (VADER), EP-3E, P-3C, and national systems.</p> <p><u>E. Performance Metrics</u></p> <p>Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.</p>		

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force										DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE				PROJECT					
3600: Research, Development, Test & Evaluation, Air Force BA 7: Operational Systems Development				PE 0305221F: Network Centric Collaborative Targeting				675197: NCCT Core Technology					
Product Development (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Core Technology	SS/CPFF	L-3ComCept:Rockwall, TX	41.450	11.803	Dec 2010	5.940	Dec 2011	-		5.940	Continuing	Continuing	TBD
Subtotal			41.450	11.803		5.940		-		5.940			
Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Security Certification	Various	Riverside Research Institute:Dayton, OH	1.949	0.504	Dec 2010	0.540	Dec 2011	-		0.540	Continuing	Continuing	TBD
Subtotal			1.949	0.504		0.540		-		0.540			
Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-	0.000	0.000	0.000
Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Office	Various	Riverside Research Institute:Dayton, OH	3.835	1.060	Dec 2010	0.868	Dec 2011	-		0.868	Continuing	Continuing	TBD
Subtotal			3.835	1.060		0.868		-		0.868			
			Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			47.234	13.367		7.348		-		7.348			

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force						DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>			R-1 ITEM NOMENCLATURE PE 0305221F: <i>Network Centric Collaborative Targeting</i>			PROJECT 675197: <i>NCCT Core Technology</i>			
	Total Prior Years Cost	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract	
Remarks									

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force		DATE: February 2011
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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Air Force			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305221F: <i>Network Centric Collaborative Targeting</i>	PROJECT 675197: <i>NCCT Core Technology</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Core Technology Baseline Version 4.2 Development & Test	1	2010	2	2011
Core Technology Baseline Version 4.3 Development & Test	1	2011	4	2012
Core Technology Baseline Version 5.0 Development & Test	1	2010	4	2014
Core Technology Baseline Version 5.1 Development & Test	1	2014	3	2016
Core Technology GMTI / SIGINT Correlator Development & Integration	2	2011	4	2012

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