

<b>Exhibit R-2, RDT&amp;E Budget Item Justification</b>	DATE <b>May 2009</b>
---	-------------------------

BUDGET ACTIVITY <b>05 System Development and Demonstration (SDD)</b>	PE NUMBER AND TITLE <b>0207434F Link 16 Support and Sustainment</b>
---	--

Cost (\$ in Millions)	FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost to Complete	Total
Total Program Element (PE) Cost	186.371	192.460	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	TBD
5050 TDL System Integration	49.851	50.973	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	TBD
5262 Family of Gateways	136.520	141.487	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Beginning in FY10 Project 655050 and 655262 moved from Program Element 0207434F Link 16 Support and Sustainment to Program Element 0604281F Tactical Data Networks Enterprise.

**(U) A. Mission Description and Budget Item Justification**

Tactical Data Links (TDLs) are used in a combat environment to exchange information such as messages, data, radar tracks, target information, platform status, imagery, and command assignments. TDLs provide interoperability, local and global connectivity, and situational awareness to the user when operating under rapidly changing operational conditions. TDLs are used by all Service theater Command and Control (C2) elements, weapons platforms, and sensors. TDLs include, but are not limited to: Link 16, Link 11, Situational Awareness Data Link (SADL), Variable Message Format (VMF), Integrated Broadcast Service (IBS), Intra-Flight Data Link (IFDL), Multifunction Advanced Data Link (MADL), Tactical Targeting Network Technology (TTNT), Flexible Access Secure Transfer (FAST), Advanced Tactical Data Link (ATDL), and Radar Common Data Link (R-CDL).

This effort provides critical capability and enhancements to the Airborne Network by creating common development, integration and interoperability among ground and air platforms. Utilization of TDLs in a joint environment requires the integration of terminals [e.g., Joint Tactical Information Distribution System (JTIDS) or Multifunctional Information Distribution System (MIDS)] into host platforms, and designing interoperability of data link networks across all deployed joint and allied platforms. The 653rd Electronic Systems Group (653rd ELSG) performs several cross-platform activities to ensure proper integration of TDL capabilities and interoperability of TDL networks. TDL efforts include incorporating changes and additions to the Link 16 message standard (MIL-STD-6016C), incorporating Link 16 enhancements and Interoperable Systems Management and Requirements Transformation (iSMART), a process which enables network centric interoperability assessments to be made more quickly and effectively. The Joint Interoperability of Tactical Command and Control Systems (JINTACCS) program ensures platform/system interoperability through the development and management of the joint/combined architecture, tactical information exchange requirements (IERs), interface definitions and protocols, platform/system implementations, employment concepts, and operating procedures. This program participates in the development, testing, and implementation of international standards (to include NATO standardization agreements) to ensure joint, allied, and coalition interoperability.

Gateway systems enable combat forces to exchange information quickly and accurately by bridging discrete airborne, terrestrial, and/or space-based C4ISR networks to produce operational effects not possible within individual networks. The AF continues to enhance the interoperability and capabilities of fielded gateways such as the Joint Air Defense System Integrator (JADSI), Joint Range Extension (JRE) functionality, Pocket J, and Roll-On Beyond-line-of-sight Enhancement (ROBE).

The Objective Gateway (OG) program is developing a family of advanced gateway capabilities to enable a transition from legacy gateways with niche requirements and narrow user-sets. OG will be modular and scalable, with Internet Protocol (IP)-based networking capabilities that service theater-wide operational and tactical users.

## Exhibit R-2, RDT&amp;E Budget Item Justification

DATE

May 2009

## BUDGET ACTIVITY

05 System Development and Demonstration (SDD)

## PE NUMBER AND TITLE

0207434F Link 16 Support and Sustainment

The OG program will be fielded in two increments. Increment 1 (Interim Gateway) will provide early OG capability based on technology demonstration and risk reduction efforts completed to date. Increment 2 (Objective Gateway) will develop, test, integrate, and field the full OG capability. In FY10, the Objective Gateway Program, was terminated.

Common Link Integration Processing (CLIP) is an Air Force/Navy program to develop a common, reusable, configurable, and extensible tactical data link message processing solution for airborne maritime, and fixed-site systems.

Activities also include studies and analysis to support both current program planning and execution and future program planning.

This program is in budget activity 5 (System Development and Demonstration (SDD)) because it supports mature system development, integration and demonstrations, initial fielding support activities, operational support activities, and support of special projects.

(U) **B. Program Change Summary (\$ in Millions)**

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
(U) Previous President's Budget	194.652	186.213	
(U) Current PBR/President's Budget	186.371	192.460	
(U) Total Adjustments	-8.281	6.247	
(U) Congressional Program Reductions		-0.830	
Congressional Rescissions		-0.523	
Congressional Increases		7.600	
Reprogrammings	-2.866		
SBIR/STTR Transfer	-5.415		

(U) **Significant Program Changes:**

In FY09 \$7.600M congressional increases for Flexible Access Secure Transfer (FAST \$1.200M) and Program Increase (\$6.400M)

**Exhibit R-2a, RDT&E Project Justification**

DATE  
**May 2009**

BUDGET ACTIVITY <b>05 System Development and Demonstration (SDD)</b>				PE NUMBER AND TITLE <b>0207434F Link 16 Support and Sustainment</b>				PROJECT NUMBER AND TITLE <b>5050 TDL System Integration</b>			
Cost (\$ in Millions)	FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost to Complete	Total	
5050 TDL System Integration	49.851	50.973	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	TBD	
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0			

Beginning in FY10, all TDL System Integration funding moved from Program Element 0207434F Link 16 Support and Sustainment to Program Element 0604281F Tactical Data Networks Enterprise. Project will remain 655050.

**(U) A. Mission Description and Budget Item Justification**

TDLs are used in a combat environment to exchange information such as messages, data, radar tracks, target information, platform status, imagery, and mission assignments. TDLs provide interoperable data exchange, local and global connectivity, and situational awareness to the tactical user when operating under rapidly changing operational conditions. TDLs are used by the Air Force, Army, Navy, and Marine Corps Theater Command and Control (C2) elements, weapons and sensor platforms. TDLs include, but are not limited to: Link 16, Link 11, Situational Awareness Data Link (SADL), Variable Message Format (VMF), Integrated Broadcast Service (IBS), Intra-Flight Data Link (IFDL), Multifunction Advanced Data Link (MADL), Tactical Targeting Network Technology (TTNT), Flexible Access Secure Transfer (FAST-FY09 Congressional Add), Advanced Tactical Data Link (ATDL), and Radar Common Data Link (R-CDL).

The number of Air Force platforms hosting TDLs is expanding from C2 aircraft (E-3, E-8, etc.) to the fighter, bomber, ISR, tanker, airlift and other tactical fleets (F-15, F-16, F-22A, Rivet Joint, B-1, B-2, B-52, etc.). Utilization of TDLs in a joint environment requires the integration of terminals into host platforms and interoperability of TDL networks across all deployed joint and allied platforms. Network Centric Transformation activities performed by the 653rd Electronic Systems Group (653rd ELSG) include, but are not limited to: enabling and supporting the transformation to network-centric operations, Network Enabled Weapons (previously Weapons Data Link), analysis and integration efforts encompassing hardware, software, operational Link 16 enhancements, and training and logistics development, certification of individual TDL implementations to joint and allied standards, establishment of service-wide network management procedures and operations, system wide enhancements and test.

In addition, this project funds the development and integration of the Joint Interface Control Officer (JICO) - Support System (JSS). JSS is an AF-led joint program to develop a TDL management toolkit to enable JICOs to plan multi-TDL architectures, manage data exchange requirements, execute and monitor a multi-TDL network, and respond to correct network deficiencies.

Joint Interoperability of Tactical Command and Control Systems (JINTACCS) is a Joint Staff-directed program providing Air Force activities responsible for ensuring the interoperability of AF TDLs [including, but not limited to Tactical Digital Information Links (TADILs) and Variable Message Formats (VMF)] and United States Message Text Format (USMTF) systems with the associated Joint and allied/coalition systems. This includes the coordination of all TDL and USMTF message standards configuration management, platform/system interoperability assessments and interoperability certification testing. The Air Force JINTACCS program supports the Assistant Secretary of Defense (ASD) directive on harmonization of US and NATO messages (e.g., Air Tasking Order and Air Control Order). This budget activity also includes TDL roadmap configuration management, Interoperable System Management and Requirements Transformation (iSMART) implementation. This program will participate in the development, testing, and implementation of international standards (to include NATO standardization

<b>Exhibit R-2a, RDT&amp;E Project Justification</b>	DATE <b>May 2009</b>
--	-------------------------

<b>BUDGET ACTIVITY</b> <b>05 System Development and Demonstration (SDD)</b>	<b>PE NUMBER AND TITLE</b> <b>0207434F Link 16 Support and Sustainment</b>	<b>PROJECT NUMBER AND TITLE</b> <b>5050 TDL System Integration</b>
--	---	---

agreements) to ensure joint, allied, and coalition interoperability.

Activities also include studies and analysis to support both current program planning and execution and future program planning.

This program is in Budget Activity 5 (System Development and Demonstration (SDD)) because it supports mature system development, integration and demonstrations, initial fielding support activities, and development of special projects.

<b>(U) <u>B. Accomplishments/Planned Program (\$ in Millions)</u></b>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
<b>(U) TDN MANAGEMENT AND INITIAL FIELDING:</b>	19.952	24.302	
- Joint Interface Control Officer Support System (JSS): Complete production representative development and system testing (DT&E, OT&E) required for FY09 Milestone C decision.			
- TDL Integration, Fielding and Support: Provides initial fielding support for units/platforms fielding a data link capability. This support consists of organic and contractor teams that provide Tactics, Techniques & Procedures (TTP) training, equipment and operations expertise needed to set-up initial TDL operations and field installations. Develops TDL architectures for implementation at AF and Joint locations worldwide resulting in a 20%-100% increase in TDL mission capability. Supports AF and Joint TDL experiments.			
<b>(U) NETWORK CENTRIC TRANSFORMATION:</b>	10.251	12.550	
- Network Centric Transformation activities including, but not limited to: enabling and supporting the transformation to network centric operations, Network Enabled Weapons (previously Weapons Data Link), Network Centric Capability Assessment, Link 16 network centric enhancements, Tactical Targeting Network Technology (TTNT) and Flexible Access Secure Transfer (FAST) was a congressional plus-up in FY09.			
- Maintain developmental equipment; test support; fielding/non-recurring training; network support; crypto support; spectrum support; gateway support; data link tool support; and support operational working groups.			
<b>(U) TDN INTEROPERABILITY TEST AND CONFIGURATION MANAGEMENT:</b>	14.580	8.833	
- JINTACCS Tactical Data Link management, architecture development and certification testing.			
- Implementation and interoperability scheduling with the A-10, F-15, F-16, B-52, B-1, B-2, and other weapon systems			
- Software updates and interoperability testing with the F-15C, E-3, E-8, Control and Reporting Center/Control and Reporting Element (CRC/CRE), interoperable Systems Management and Requirements Transformation (iSMART), and other weapon systems.			
- Tactical Data Link roadmap requirements, configuration management, and Air Force Participating Test Unit activities (AFPTU).			
<b>(U) TACTICAL DATA LINK ACQUISITION MANAGEMENT:</b> Includes the 640th Electronic Systems Squadron (640th ELSS) program management support, coalition interoperability management, A&AS and MITRE support.	5.068	5.288	

UNCLASSIFIED

<b>Exhibit R-2a, RDT&amp;E Project Justification</b>	DATE <b>May 2009</b>
--	-------------------------

<b>BUDGET ACTIVITY</b> <b>05 System Development and Demonstration (SDD)</b>	<b>PE NUMBER AND TITLE</b> <b>0207434F Link 16 Support and Sustainment</b>	<b>PROJECT NUMBER AND TITLE</b> <b>5050 TDL System Integration</b>
--	---	---

(U) <b><u>B. Accomplishments/Planned Program (\$ in Millions)</u></b>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>							
(U) Total Cost	49.851	50.973	0.000							
 (U) <b><u>C. Other Program Funding Summary (\$ in Millions)</u></b>										
	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>Cost to</u>	<u>Total Cost</u>
	<u>Actual</u>	<u>Estimate</u>	<u>Complete</u>							
(U) AF RDT&E (3600)										
(U) 0207445F (Fighter TDL)	57.424	57.264	72.106						Continuing	TBD
(U) 0207446F (Bomber TDL)	38.280	11.603	0.000						Continuing	TBD
(U) 0207448F (C2ISR TDL)	1.745	1.719	1.667							5.131
(U) 0401839F (Airlift TDL)	4.300	7.923	0.000							
(U) 0604281F (TDN Enterprise)	0.000	0.000	88.444							
(U) Other APPN										
(U) Aircraft Procurement, AF (3010)										
(U) 0207434F (Link 16 Sup & Sus)	0.001	0.008	0.000						Continuing	TBD
(U) 0207445F (Fighter TDL)	24.877	5.788	9.616							40.281
(U) 0207446F (Bomber TDL)	4.426	0.000	0.000							4.426
(U) 0401839F (Airlift TDL)	12.394	0.000	0.000						Continuing	TBD
(U) O&M, AF (3400)										
(U) 0207434F (Link 16 Sup & Sus)	29.405	22.104	0.359							0.258
(U) 0207445F (Fighter TDL)	0.300	0.281	0.219							
(U) 0401839F (Airlift TDL)	3.907	6.469	10.242						Continuing	TBD
(U) 0604281F (TDN Enterprise)	0.000	0.000	34.850							
(U) Other Procurement, AF (3080)										
(U) 0207434F (Link 16 Sup & Sus)	22.980	16.079	0.000						Continuing	TBD
(U) 0604281F (TDN Enterprise)	0.000	0.000	32.441							

## Exhibit R-2a, RDT&amp;E Project Justification

DATE

May 2009

BUDGET ACTIVITY

05 System Development and Demonstration (SDD)

PE NUMBER AND TITLE

0207434F Link 16 Support and  
Sustainment

PROJECT NUMBER AND TITLE

5050 TDL System Integration

(U) **D. Acquisition Strategy**

The 653rd Electronic Systems Group (ELSG) provides for common development, integration and interoperability across the entire Airborne Network and ensures that data links are procured and maintained as a joint, end-to-end, command and control system. Platform acquisition strategies vary by program, but the majority of development and integration is normally accomplished by the weapon system prime contractor.

UNCLASSIFIED

**Exhibit R-3, RDT&E Project Cost Analysis**

DATE

**May 2009**

BUDGET ACTIVITY				PE NUMBER AND TITLE				PROJECT NUMBER AND TITLE				
<b>05 System Development and Demonstration (SDD)</b>				<b>0207434F Link 16 Support and Sustainment</b>				<b>5050 TDL System Integration</b>				
(U) <u>Cost Categories</u> (Tailor to WBS, or System/Item Requirements) (\$ in Millions)	<u>Contract Method &amp; Type</u>	<u>Performing Activity &amp; Location</u>	<u>Total Prior to FY 2008 Cost</u>	<u>FY 2008 Cost</u>	<u>FY 2008 Award Date</u>	<u>FY 2009 Cost</u>	<u>FY 2009 Award Date</u>	<u>FY 2010 Cost</u>	<u>FY 2010 Award Date</u>	<u>Cost to Complete</u>	<u>Total Cost</u>	<u>Target Value of Contract</u>
(U) <u>Product Development</u>												
-TDN Management and Initial Fielding											0.000	TBD
-- JICO Support System	C/CPFF	Northrop Grumman, San Diego, CA		13.174	Nov-07	14.786	Dec-08				27.960	TBD
-- Initial Fielding Support	Various	Various		5.197	Nov-07	5.592	Nov-08				10.789	TBD
- Network Centric Transformation (TTNT, NEW, Link 16 enhancements, FAST, Link 16 network centric enhancements)	Various	Various		10.251	Dec-07	12.550	Dec-08				22.801	TBD
- TDN Interoperability Test and Configuration Management (AFPTU, JINTACCS, iSMART)	Various	Various		14.580	Dec-07	8.833	Dec-08				23.413	TBD
-TDL Acquisition Management (Coalition Interoperability)	Various	Various		0.442	Nov-07		Nov-08				0.442	TBD
Subtotal Product Development			0.000	43.644		41.761		0.000		0.000	85.405	TBD
Remarks:												
(U) <u>Test &amp; Evaluation</u>												
- Various Test Centers	Project Order/MIP R	Various		1.581	Dec-07	3.924	Dec-08				5.505	TBD
Subtotal Test & Evaluation			0.000	1.581		3.924		0.000		0.000	5.505	TBD
Remarks:												
(U) <u>Management</u>												
-Program Office and Contractor Support	C/FFP	Various		4.626	Dec-07	5.288	Dec-08				9.914	TBD
Subtotal Management			0.000	4.626		5.288		0.000		0.000	9.914	TBD
Remarks:												
(U) Total Cost			0.000	49.851		50.973		0.000		0.000	100.824	TBD

Exhibit R-4, RDT&E Schedule Profile

DATE

May 2009

BUDGET ACTIVITY  
05 System Development and Demonstration (SDD)

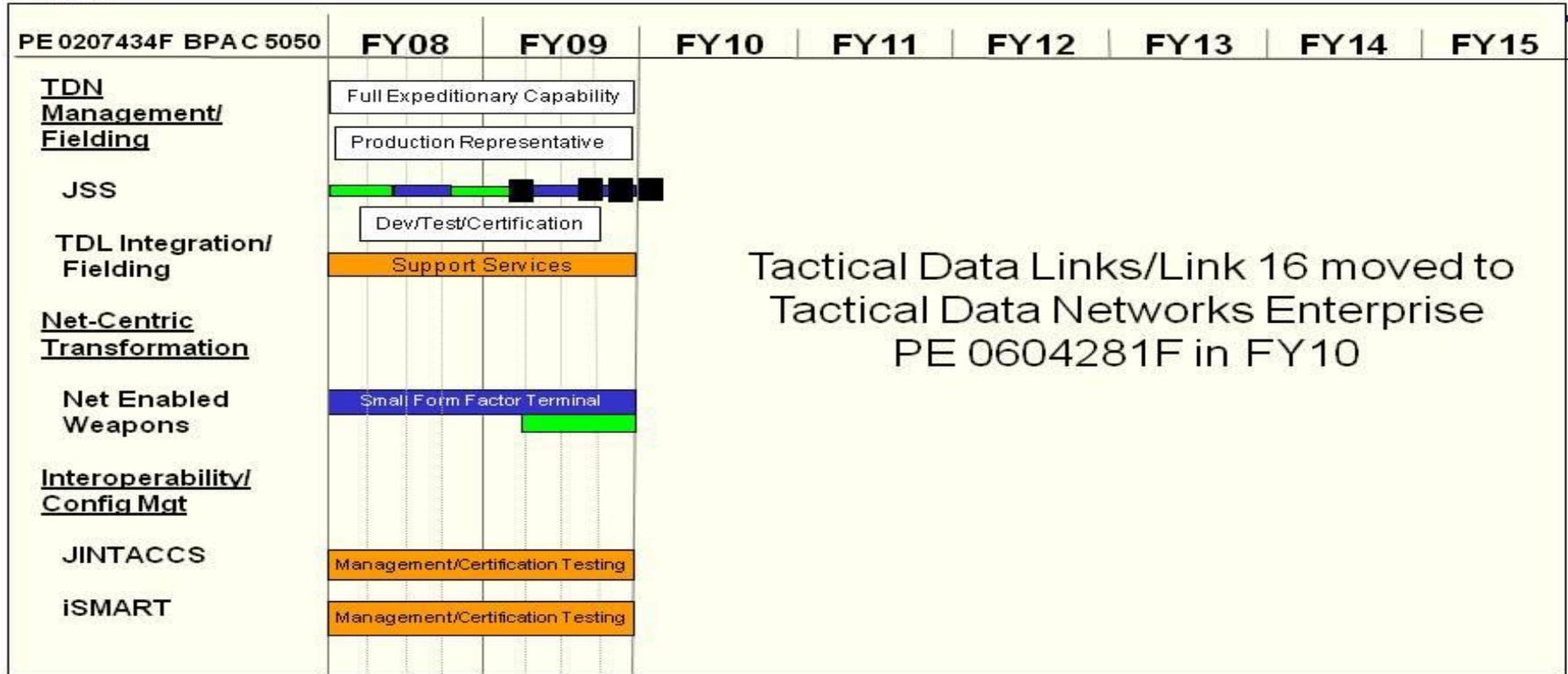
PE NUMBER AND TITLE  
0207434F Link 16 Support and Sustainment

PROJECT NUMBER AND TITLE  
5050 TDL System Integration



# Tactical Data Links / Link 16 Schedules

16 December 2008



As of 16 Dec 08

▲ Contract Awards

■ Delivery Milestones

Program Phases  
■ Development/Demonstration  
■ Test  
■ Integration/Fielding

*Integrity - Service - Excellence*

UNCLASSIFIED

**Exhibit R-4a, RDT&E Schedule Detail**

DATE

**May 2009**

BUDGET ACTIVITY

**05 System Development and Demonstration (SDD)**

PE NUMBER AND TITLE

**0207434F Link 16 Support and Sustainment**

PROJECT NUMBER AND TITLE

**5050 TDL System Integration**

**(U) Schedule Profile**

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
(U) JSS Development, Test & Certification	1-4Q	1-4Q	1Q
(U) TDL Integration & Fielding Support	1-4Q	1-4Q	
(U) Network Enabled Weapons Development	1-4Q	1-4Q	
(U) Network Enabled Weapons Test & Certification		2-4Q	
(U) JINTACCS	1-4Q	1-4Q	
(U) iSMART	1-4Q	1-4Q	

## Exhibit R-2a, RDT&amp;E Project Justification

DATE

May 2009

BUDGET ACTIVITY		PE NUMBER AND TITLE						PROJECT NUMBER AND TITLE		
<b>05 System Development and Demonstration (SDD)</b>		<b>0207434F Link 16 Support and Sustainment</b>						<b>5262 Family of Gateways</b>		
Cost (\$ in Millions)	FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost to Complete	Total
5262 Family of Gateways	136.520	141.487	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0		

Beginning in FY10, all Family of Gateways funding except for Objective Gateway moved from Program Element 0207434F Link 16 Support and Sustainment to Program Element 0604281F Tactical Data Networks Enterprise. Existing Gateways will remain under Project 655262. In FY10, the Objective Gateway Program was terminated.

(U) **A. Mission Description and Budget Item Justification**

Gateway systems enable combat forces to exchange information quickly and accurately by bridging discrete airborne, terrestrial, maritime, and space-based C4ISR networks to produce operational effects not possible within individual networks. Gateway functions include: 1) enabling interoperability among otherwise incompatible systems by translating between data formats, protocols, and communication mediums, 2) extending the range of Line-of-Sight constrained systems through relay functions or by routing through Beyond-Line-of-Sight links, 3) consolidating data from multiple networks into high capacity links for transmission to key C2ISR nodes, 4) routing information to and from communications disadvantaged users, 5) correlating data from multiple sources to increase utility and improve accuracy, and 6) providing application hosting, shared data storage, on-demand information access, smart data forwarding, and system monitoring/management. A primary benefit is that gateways provide cost-effective modernization and achieve network-centric warfighting effects without modification of individual platforms.

Existing gateways include the Joint Air Defense System Integrator (JADSI), Joint Range Extension (JRE) functionality [which includes the JRE Transparent Multi-Platform Gateway (TMPG) Equipment Package (JTEP)], Pocket J, and Roll-On Beyond-line-of-sight Enhancement (ROBE). These legacy gateways, which are fielded in multiple Joint and Service C2 centers and platforms, primarily provide tactical data link range extension and interoperability. The AF continues to enhance the interoperability and capabilities of fielded gateways through processing capability upgrades, operating system updates, display/graphical user interface upgrades, incorporation of additional messaging standards and protocols, and completion of gateway architecture fielding.

The Objective Gateway (OG) program will deliver a set of advanced gateway capabilities to increase voice and data communications connectivity and information interoperability across many users and platforms in the tactical edge (including homeland defense). OG will bring these users and platforms into the net-centric Global Information Grid (GIG) via a secure, high-capacity network of collaborating OG nodes. Projected OG users and platforms include fighter and bomber aircraft, airborne and ground C2 nodes, mobile and dismounted forces, first responders and command centers, and other users in the GIG. Communications systems include legacy tactical data links, advanced (IP-based) tactical data links, military and civilian voice radios, satellite communications, cellular radios, and terrestrial networks. OG nodes are anticipated to be fielded on five types of platforms, or variants: Tactical Airborne, Strategic Airborne, Ground, Maritime, and Training. OG will be fielded in two efforts. Interim Gateway (formerly Increment 1) will provide initial OG capabilities to meet warfighters' demands based on the Battlefield Airborne Communications Node (BACN) airborne gateway and the Rapid Attack Information Dissemination Execution Relay (RAIDER) ground modular gateway technology demonstration and risk reduction efforts completed to date. FY08-09 activities for Interim Gateway include development and test of production representative airborne and ground gateway hardware and software configurations, and development of required technical and support documentation. Objective Gateway (formerly Increment 2) will develop, test, and integrate the OG Core. This is the common OG software which will be used in combination with various communications terminals and other systems to produce individual OG nodes, whose configurations and capabilities are tailorable to meet different platform Size, Weight, and Power

<b>Exhibit R-2a, RDT&amp;E Project Justification</b>	DATE <b>May 2009</b>
--	-------------------------

<b>BUDGET ACTIVITY</b> <b>05 System Development and Demonstration (SDD)</b>	<b>PE NUMBER AND TITLE</b> <b>0207434F Link 16 Support and Sustainment</b>	<b>PROJECT NUMBER AND TITLE</b> <b>5262 Family of Gateways</b>
--	---	---

(SWaP) and mission requirements. OG Core functions will include Tactical Data Network (TDN) message translation, correlation, and forwarding, which will be provided, in part, by the initial fielding of the Common Link Integration Processing (CLIP) capability. FY08-09 activities for Objective Gateway include OG Core technical risk reduction, prototyping, assessment of CLIP-like capability requirements, and development of an OG Core Reference System Architecture -- the framework that will provide for performance, extensibility, modifiability, scalability, and portability of the OG Core's modular system components. In FY10, the Objective Gateway Program was terminated.

Common Link Integration Processing (CLIP) is a program to develop a common, reusable, configurable, and extensible tactical data link message processing solution for airborne, maritime, and fixed-site systems, with initial fielding on B-1 & B-52. The AF and Navy made equitable contributions to CLIP RDT&E funding through FY07. Program leadership transferred from the Navy to the AF in FY08. The AF is funding CLIP RDT&E beginning in FY08. CLIP is a software-only, weapon system-independent middleware application that provides gateway services among diverse message sets and waveforms. CLIP effectively isolates the host platform system software from changes in data link message format and processing. Because message processing is no longer embedded in mission software, message standard updates can be incorporated without costly mission software changes. The result is enhanced interoperability and significantly reduced integration and life-cycle sustainment costs.

Activities also include studies and analysis to support both current program planning and execution and future program planning.

This program is in Budget Activity 5 (System Development and Demonstration (SDD)) because it supports mature system development, integration and demonstrations, initial fielding support activities, operational support activities, and support of special projects

<u>(U) B. Accomplishments/Planned Program (\$ in Millions)</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
(U) CLIP development and testing	22.026	29.427	
(U) Interim Gateway development and test, including BACN and RAIDER demonstrations and incremental Objective Gateway development	92.762	86.550	
(U) Development, integration, and testing of JRE/JTEP capability enhancements	4.721	4.597	
(U) Development, integration, and testing of Pocket J capability enhancements (Congressional Increase in FY09)	0.744	6.355	
(U) Development, integration, and testing of JADSI capability enhancements	4.314	4.449	
(U) Development, integration, and testing of SADL/TMPG capability enhancements	2.205	2.906	
(U) Tactical Data Link Acquisition Management: Includes the 653rd Electronic Systems Group (653rd ELSG) program management support, A&AS and MITRE support.	9.748	7.203	
(U) Total Cost	136.520	141.487	0.000

**UNCLASSIFIED**

**Exhibit R-2a, RDT&E Project Justification**

DATE

**May 2009**

<b>BUDGET ACTIVITY</b> <b>05 System Development and Demonstration (SDD)</b>	<b>PE NUMBER AND TITLE</b> <b>0207434F Link 16 Support and Sustainment</b>	<b>PROJECT NUMBER AND TITLE</b> <b>5262 Family of Gateways</b>
--	---	---

**(U) C. Other Program Funding Summary (\$ in Millions)**

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>Cost to Complete</u>	<u>Total Cost</u>
	<u>Actual</u>	<u>Estimate</u>								
(U) AF RDT&E (3600)										
(U) 0207445F (Fighter TDL)	57.424	57.264	72.106						Continuing	TBD
(U) 0207446F (Bomber TDL)	38.280	11.603	0.000						Continuing	TBD
(U) 0207448F (C2ISR TDL)	1.745	1.719	1.667						Continuing	TBD
(U) 0401839F (Airlift TDL)	4.300	7.923	0.000							
(U) 0604281F (TDN Enterprise)	0.000	0.000	88.444							
(U) Other APPN										
(U) Procurement (3010)										
(U) 0207434F (Link 16 Sup & Sus)	0.001	0.008	0.000						Continuing	TBD
(U) 0207445F (Fighter TDL)	24.877	5.788	9.616						Continuing	TBD
(U) 0207446F (Bomber TDL)	4.426	0.000	0.000						Continuing	TBD
(U) 0401839F (Airlift TDL)	12.394	0.000	0.000						Continuing	TBD
(U) Other Procurement (3080)										
(U) 0207434F (Link 16 Sup & Sus)	22.980	16.079	0.000						Continuing	TBD
(U) 0604281F (TDN Enterprise)	0.000	0.000	32.441							
(U) O&M (3400)										
(U) 0207434F (Link 16 Sup & Sus)	29.405	22.104	0.359						Continuing	TBD
(U) 0207445F (Fighter TDL)	0.300	0.281	0.219						Continuing	TBD
(U) 0401839F (Airlift TDL)	3.907	6.469	10.242						Continuing	TBD
(U) 0604281F (TDN Enterprise)	0.000	0.000	34.850							

**(U) D. Acquisition Strategy**

The 653rd Electronic Systems Group (ELSG) provides for common development, integration and interoperability across the entire Airborne Network and ensures that data links are procured and maintained as a joint, end-to-end, command and control system. Platform acquisition strategies vary by program, but the majority of development and integration is normally accomplished by the weapon system prime contractor.

UNCLASSIFIED

**Exhibit R-3, RDT&E Project Cost Analysis**

DATE

**May 2009**

<b>BUDGET ACTIVITY</b> <b>05 System Development and Demonstration (SDD)</b>	<b>PE NUMBER AND TITLE</b> <b>0207434F Link 16 Support and Sustainment</b>	<b>PROJECT NUMBER AND TITLE</b> <b>5262 Family of Gateways</b>
--	---	---

<u>(U) Cost Categories</u> (Tailor to WBS, or System/Item Requirements) (\$ in Millions)	<u>Contract Method &amp; Type</u>	<u>Performing Activity &amp; Location</u>	<u>Total Prior to FY 2008 Cost</u>	<u>FY 2008 Cost</u>	<u>FY 2008 Award Date</u>	<u>FY 2009 Cost</u>	<u>FY 2009 Award Date</u>	<u>FY 2010 Cost</u>	<u>FY 2010 Award Date</u>	<u>Cost to Complete</u>	<u>Total Cost</u>	<u>Target Value of Contract</u>
<u>(U) Product Development</u>												
CLIP	MIPR	SPAWAR, San Diego, CA		21.562	Jan-08	28.927	Jan-09				50.489	TBD
Interim Gateway development and test, including BACN and RAIDER demonstrations and incremental Objective Gateway development & Concept Refinement	VARIOUS	Various		91.562	Dec-07	85.851	Dec-08				177.413	TBD
JRE/JTEP enhancements	T&M/FFP	Centech, Arlington, VA		3.971	Dec-07	4.247	Dec-08				8.218	TBD
Pocket J enhancements	TBD	ProLogic, WV		0.454	Jan-08	6.188	Jan-09				6.642	TBD
JADSI enhancements	T&M/FFP	Ultra Electronics, Austin, TX		4.189	Jan-08	3.974	Dec-08				8.163	TBD
SADL/TMPG enhancements	T&M/FFP	Raytheon, Fullerton, CA		2.205	Dec-07	2.502	Dec-08				4.707	TBD
Subtotal Product Development			0.000	123.943		131.689		0.000		0.000	255.632	TBD
Remarks:												
<u>(U) Test &amp; Evaluation</u>												
Various	Project Order/MIP R	Various		2.830	Nov-07	2.595	Dec-08				5.425	TBD
Subtotal Test & Evaluation			0.000	2.830		2.595		0.000		0.000	5.425	TBD
Remarks:												
<u>(U) Management</u>												
Program Office and Contractor Support	C/FFP			9.747	Nov-07	7.203	Nov-08				16.950	TBD
Subtotal Management			0.000	9.747		7.203		0.000		0.000	16.950	TBD
Remarks:												
<u>(U) Total Cost</u>			0.000	136.520		141.487		0.000		0.000	278.007	TBD

Exhibit R-4, RDT&E Schedule Profile

DATE  
May 2009

BUDGET ACTIVITY  
05 System Development and Demonstration (SDD)

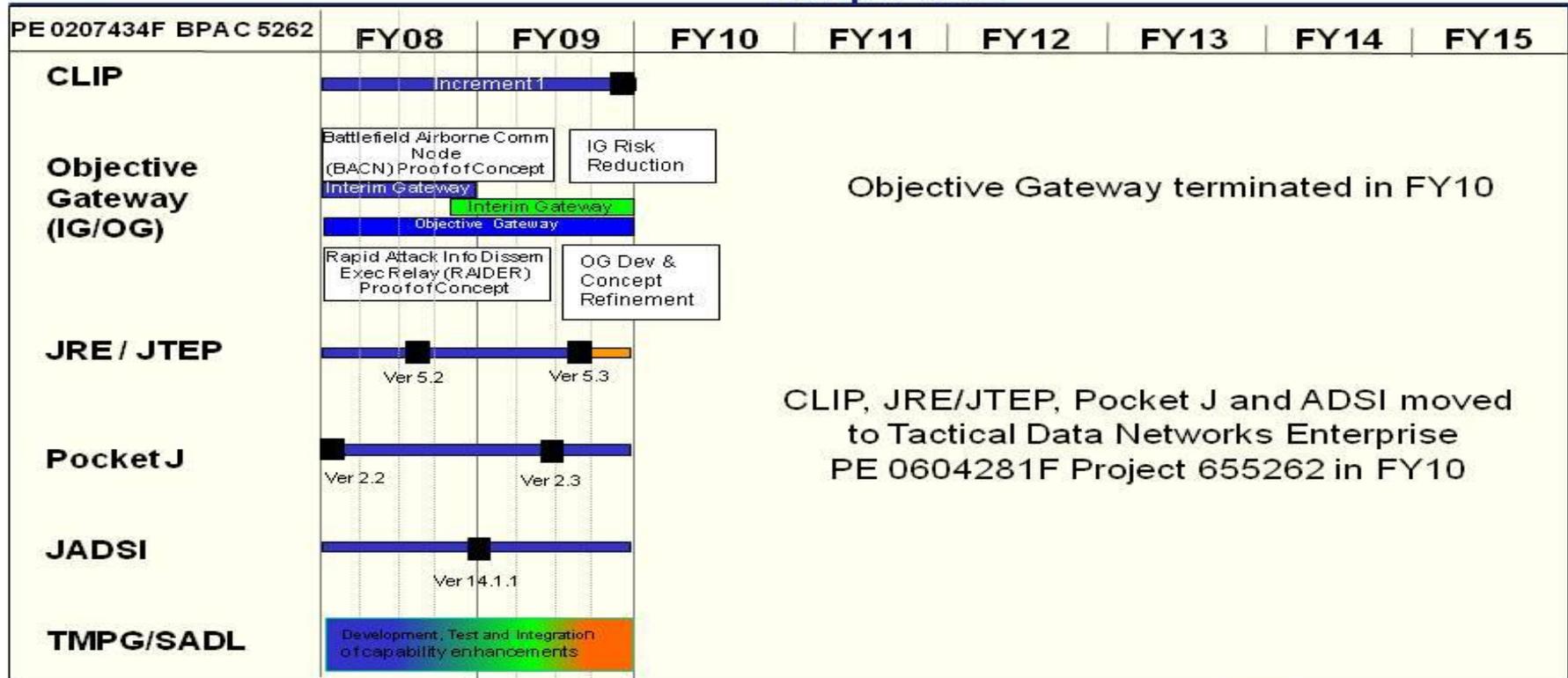
PE NUMBER AND TITLE  
0207434F Link 16 Support and Sustainment

PROJECT NUMBER AND TITLE  
5262 Family of Gateways



# Tactical Data Links / Link 16 Family of Gateways Schedules

22 April 2009



As of 22 Apr 09

▲ Contract Awards

■ Delivery Milestones

Program Phases  
■ Development/Demonstration  
■ Test  
■ Integration/Fielding

*Integrity - Service - Excellence*

UNCLASSIFIED

<b>Exhibit R-4a, RDT&amp;E Schedule Detail</b>	DATE <b>May 2009</b>
--	-------------------------

<b>BUDGET ACTIVITY</b> <b>05 System Development and Demonstration (SDD)</b>	<b>PE NUMBER AND TITLE</b> <b>0207434F Link 16 Support and Sustainment</b>	<b>PROJECT NUMBER AND TITLE</b> <b>5262 Family of Gateways</b>
--	---	---

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
(U) <b><u>Schedule Profile</u></b>			
(U) CLIP Development	1-4Q	1-4Q	
(U) CLIP Product Delivery		4Q	
(U) Interim Gateway (IG) Development	1-4Q		
(U) Interim Gateway (IG) Test	4Q	1-4Q	
(U) Objective Gateway (OG) Development & Concept Refinement	1-4Q	1-4Q	
(U) JRE/JTEP Development & Integration	1-4Q	1-4Q	
(U) JRE/JTEP Product Delivery	3Q	3Q	
(U) Pocket J Development	1-4Q	1-4Q	
(U) Pocket J Product Delivery	1Q	2Q	
(U) JADSI Development	1-4Q	1-4Q	
(U) JADSI Product Delivery		1Q	
(U) TMPG/SADL capability enhancements	1-4Q	1-4Q	

**THIS PAGE INTENTIONALLY LEFT BLANK**