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Exhibit R-2, RDT&E Budget Item Justification: FY 2018 Air Force **Date:** May 2017

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| Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 5: System Development & Demonstration (SDD)</i> | R-1 Program Element (Number/Name) PE 0604281F / <i>Tactical Data Networks Enterprise</i> |
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| COST (\$ in Millions) | Prior Years | FY 2016 | FY 2017 | FY 2018 Base | FY 2018 OCO | FY 2018 Total | FY 2019 | FY 2020 | FY 2021 | FY 2022 | Cost To Complete | Total Cost |
|---------------------------------------|-------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| Total Program Element | - | 49.495 | 82.380 | 38.250 | 0.000 | 38.250 | 100.028 | 46.839 | 42.914 | 35.171 | Continuing | Continuing |
| 655050: <i>TDL System Integration</i> | - | 26.482 | 34.990 | 35.585 | 0.000 | 35.585 | 63.313 | 46.839 | 42.914 | 35.171 | Continuing | Continuing |
| 655262: <i>Family of Gateways</i> | - | 23.013 | 47.390 | 2.665 | 0.000 | 2.665 | 36.715 | 0.000 | 0.000 | 0.000 | Continuing | Continuing |

Note
 This program, BA 05 PE 0604281F, project 655050, SFF/DACAS Modernization and System-of-Systems (SoS) Enterprise Integration, is a new start.
 This program, BA 05 PE 0604281F, project 655050, Applique Technologies for TDLs, is a new start.
 This program, BA 05 PE 0604281F, project 655050, Cognitive Enterprise Development and Baselining, is a new start.

A. Mission Description and Budget Item Justification

The Tactical Data Networks Enterprise (TDNE) develops, enhances and fields Tactical Data Links (TDL), advanced waveforms, radios, network management tools, and associated hardware and software that comprise the Joint Aerial Layer Network (JALN). This will be accomplished by upgrading currently fielded communications and TDL systems and by developing and fielding more advanced systems in the future. Also addresses warfighter urgent demands through the establishment of Quick Reaction Capabilities (QRC) and Enterprise activities as directed by JALN council. TDNE supports the development, fielding and training of aerial layer networking capabilities across multiple core functions including air superiority, ground precision attack, command and control, space operations, intelligence, surveillance and reconnaissance (ISR), and personal recovery. These activities provide the Joint Forces Air Component Commander with networks to build a common operating picture of the battlespace. TDNE executes quick reaction response capability requests by the warfighter and support activities (including ramp-up) associated with the Joint Aerial Layer Network (JALN) Enterprise activities as directed by the JALN Council. This program ensures the continued enhanced interoperability of Air Force and joint/coalition/NATO assets through efforts such as early systems engineering and use of the Political, Operational, Economic and Technical (POET) process for program requirements analysis and architectural design development/coordination of all TDN standards and management capabilities, configuration management, platform/system interoperability assessments, development of government reference architectures, interoperability certification testing, and flight testing.

TDL System Integration will provide for the study (acquisitions current and proposed), analysis, enhancement, development, integration, demonstration, test, and evaluation of Tactical Data Links (TDLs) as a subset of the broader aerial layer networks. TDLs are used in both peace time and combat environments to exchange information such as character-oriented and fixed-formatted messages, data, radar tracks, target information, platform status, imagery, free-text messaging and command assignments. TDLs provide interoperability, local and global connectivity, and situational awareness to the user when training or fighting under rapidly changing operational conditions. TDLs increase mission effectiveness by providing enhanced air domain situational awareness, positive combat identification of aircraft in the network, fusion/correlation of on- and off-board sensor data, digital sharing of machine-to-machine target and threat information, thereby, enabling time critical targeting and other mission assignment tasking. 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), Intra-Flight Data Link (IFDL), and other Advanced TDL Link technologies, such as Tactical Targeting Network Technology (TTNT), Common Data Link (CDL), and Multifunction Advanced Data Link (MADL). TDLs typically include both a waveform specification as well as the standards for exchanging messages.

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Family of Gateways provides for the study (acquisitions current and proposed), analysis, enhancement, development, integration, costing, demonstration, test, and evaluation efforts that will allow joint combat forces to exchange information quickly and accurately by bridging discrete airborne, terrestrial, maritime, and space-based C4ISR networks producing operational effects not possible within individual networks. Gateway functions include enabling interoperability between data formats, protocols, and communication mediums. Additionally, gateway functions extend the connectivity range, consolidate data from multiple networks into high capacity links for transmission to key C2ISR nodes, route information between disadvantaged users, and fuse/correlate data from multiple sources to improve accuracy. Gateway functions also provide application hosting, shared data storage, on-demand information access, smart data forwarding, and system monitoring and network management. Further, this project supports 5th-to-4th Generation communications capabilities, 5th-to-5th Generation efforts and future TDL communications development. Additionally, Family of Gateways will support to enhance existing TDL performance, through upgrades and engineering analysis of system designs. Efforts in this project include waveform, ground, and rapid acquisition activities supporting Air Force requirements for communications bridging across multiple platforms, sources and communication domains.

This program is in Budget Activity 5, System Development and Demonstration (SDD) because it has passed Milestone B approval and is conducting engineering and manufacturing development tasks aimed at meeting validated requirements prior to full-rate production.

| B. Program Change Summary (\$ in Millions) | FY 2016 | FY 2017 | FY 2018 Base | FY 2018 OCO | FY 2018 Total |
|---|----------------|----------------|---------------------|--------------------|----------------------|
| Previous President's Budget | 59.996 | 82.380 | 74.628 | 0.000 | 74.628 |
| Current President's Budget | 49.495 | 82.380 | 38.250 | 0.000 | 38.250 |
| Total Adjustments | -10.501 | 0.000 | -36.378 | 0.000 | -36.378 |
| • Congressional General Reductions | 0.000 | 0.000 | | | |
| • Congressional Directed Reductions | 0.000 | 0.000 | | | |
| • Congressional Rescissions | 0.000 | 0.000 | | | |
| • Congressional Adds | 0.000 | 0.000 | | | |
| • Congressional Directed Transfers | 0.000 | 0.000 | | | |
| • Reprogrammings | -8.589 | 0.000 | | | |
| • SBIR/STTR Transfer | -1.912 | 0.000 | | | |
| • Other Adjustments | 0.000 | 0.000 | -36.378 | 0.000 | -36.378 |

Change Summary Explanation

FY 2016:

-Project 655050/655262, -\$8.589M reprogrammed for higher Air Force priorities

FY 2018:

-Project 655050/655262, -\$52.278M reprogrammed for higher Air Force priorities

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| -Project 655050, +\$15.9M for SFF/DACAS Modernization and SoS Enterprise; Applique Technologies for TDLs; and Cognitive Enterprise Development and Baselining | | |

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| Exhibit R-2A, RDT&E Project Justification: FY 2018 Air Force | | | | | | | | | | Date: May 2017 | | |
| Appropriation/Budget Activity 3600 / 5 | | | | | R-1 Program Element (Number/Name) PE 0604281F / <i>Tactical Data Networks Enterprise</i> | | | | Project (Number/Name) 655050 / <i>TDL System Integration</i> | | | |
| COST (\$ in Millions) | Prior Years | FY 2016 | FY 2017 | FY 2018 Base | FY 2018 OCO | FY 2018 Total | FY 2019 | FY 2020 | FY 2021 | FY 2022 | Cost To Complete | Total Cost |
| 655050: <i>TDL System Integration</i> | - | 26.482 | 34.990 | 35.585 | 0.000 | 35.585 | 63.313 | 46.839 | 42.914 | 35.171 | Continuing | Continuing |
| Quantity of RDT&E Articles | - | - | - | - | - | - | - | - | - | - | | |

Note

This program, BA 05 PE 0604281F, project 655050, SFF/DACAS Modernization and System-of-Systems (SoS) Enterprise Integration, is a new start.
 This program, BA 05 PE 0604281F, project 655050, Applique Technologies for TDLs, is a new start.
 This program, BA 05 PE 0604281F, project 655050, Cognitive Enterprise Development and Baselineing, is a new start.

A. Mission Description and Budget Item Justification

TDL System Integration provides for the study, analysis, enhancement, development, integration, demonstration, joint/coalition/NATO interoperability exercises, costing, test, trials, and evaluation of Tactical Data Links (TDL) as a subset of the broader aerial layer network. TDLs are used in both peacetime and combat environments to exchange information such as character-oriented and fixed-formatted messages, data, radar tracks, target information, platform status, imagery, free-text messaging and command assignments. TDLs provide interoperability, local and global connectivity, and situational awareness to the user when training or fighting under rapidly changing operational conditions. TDLs increase mission effectiveness by providing enhanced air domain situational awareness, positive combat identification of aircraft in the network, fusion/correlation of on- and off-board sensor data, digital sharing of machine to machine target and threat information and, thereby, enabling time critical targeting and other mission assignment tasking. TDLs are used by all service, NATO, and coalition theater C2 elements, weapons platforms, and sensors.

The number of Air Force platforms hosting TDLs has expanded from C2 aircraft (E-3, E-8, E-11A, EQ-4B, etc.) to the fighter, bomber, intelligence, surveillance and reconnaissance (ISR), tanker, airlift and other tactical fleets (F-15, F-16, F-22A, Rivet Joint, B-1, B-2, B-52, KC-46, etc.), as well as precision guided munitions. Utilization of TDLs in joint and international environments requires the integration of terminals into host platforms and interoperability of TDL networks across all deployed joint/Coalition/NATO platforms. Mandates have dictated a required upgrade in Low Volume Terminal (LVT) and Multifunction Information Distribution System (MIDS) Joint Tactical Radio System (JTRS) terminals in order to meet new frequency reprogramming and cryptographic requirements. Integration and test costs will be associated with these mandates. TDLs have become the primary means of tactical battlefield communications.

Efforts in this project include waveform and integration activities.

Waveform:

Waveform activities include, but are not limited to, enabling and supporting Joint Interoperability of Tactical Command and Control Systems (JINTACCS), joint/Coalition/NATO Interoperability, Link 16 enhancements, and development of a next generation waveform and/or advanced tactical data link. Funding will provide training, logistics development, testing and certification of individual TDL implementations to joint/allied standards, establishment of service-wide network management procedures/operations, and system wide enhancements/testing, demonstration and experimentation.

Integration:

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| Appropriation/Budget Activity 3600 / 5 | R-1 Program Element (Number/Name) PE 0604281F / <i>Tactical Data Networks Enterprise</i> | Project (Number/Name) 655050 / <i>TDL System Integration</i> |
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Integration activities include but are not limited to, Data Link Test Facility (DTF), Block Upgrade 2 (BU2) retrofit, Block Cycle 1 (BC1) retrofit , Air Force Participating Test Unit (AFPTU), Interoperable System Management and Requirements Transformation (iSMART), Joint Airborne Network Tactical Edge (JAN-TE), Network Centric Capability Assessment (NCCA), NATO interoperability, Coalition interoperability, TDL Planning, Analysis, and Monitoring (TDL PAM), integration analysis of C2 of JALN, Cursor on Target (CoT), Combat Cloud, Tactical Communications Suite (TCS), and analysis of integration on platforms of existing TDN systems, system-of-systems analysis. Funding will ensure continued enhanced interoperability of Air Force/joint/Coalition/NATO assets through efforts such as early systems engineering and use of the POET process for program requirements analysis and architectural design development/coordination of all TDN standards and management capabilities, configuration management, platform/system interoperability assessments, development of government reference architectures, integration of cyber technologies, interoperability certification testing, and flight testing, demonstration and experimentation.

Activities also include studies and analysis (engineering and cost) to support both current program planning and execution and future program planning efforts for Tactical Data Networks (TDN), including development of joint concepts for C2 of JALN, JALN Analysis of Alternatives (AoA) follow-on analysis, and JALN gateway planning.

Activities will also include joint/Coalition/NATO Interoperability that provides program office system engineering to support Foreign Military Sales (FMS) case development, FMS planning for tech refresh modifications, Crypto-Modernization, and Net Management.

B. Accomplishments/Planned Programs (\$ in Millions)

| | FY 2016 | FY 2017 | FY 2018 |
|--|---------|---------|---------|
| <p>Title: Tactical Data Networks (TDN) Integration</p> <p>Description: TDN Integration activities include but are not limited to, Data Link Test Facility (DTF), Air Force Participating Test Unit (AFPTU), Network Centric Capability Assessment (NCCA), Joint/Coalition/NATO Interoperability, Joint Aerial Layer Network (JALN) Analysis of Alternatives (AoA) follow-on, JALN gateway planning, and TDL PAM.</p> <p>FY 2016 Accomplishments:</p> <ul style="list-style-type: none"> -Managed the development, certification, developmental training, and logistics plans for individual TDL implementations to joint/allied standards -Provided management with the necessary engineering, technical, and administrative support needed to facilitate development -Provided support planning (e.g. TDL and Link 16 Modernization), testing, integration, and fielding of all MIDS LVT and MIDS JTRS current upgrade configurations -Provided support to TDL interoperability testing of development and fielded systems through the DTF -Provided support for DoD-mandated TDL MIL-STD conformance testing and interoperability assessments for all TDL-capable Air Force platforms through AFPTU -Conducted Aerial layer network-focused studies and analysis that support data link enhancements -Conducted assessments, studies, analysis of tactical airborne network and network management gaps that were validated in existing requirements documents through the Network Centric Capability Assessments (NCCA) | 11.864 | 13.710 | 9.044 |

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| B. Accomplishments/Planned Programs (\$ in Millions) | | FY 2016 | FY 2017 | FY 2018 |
| <p>--Studies and analysis included, but were not limited to, supporting both current program planning and execution and future program planning efforts for TDN (e.g. development of joint concepts for C2 and network management of the Joint Aerial Layer Network (JALN), Combat Cloud, and JALN gateway planning)</p> <p>-Provided support to Coalition Interoperability and provides program office system engineering to support NATO C3I, Foreign Military Sales (FMS) case development, FMS planning for tech refresh modifications, Crypto-Modernization, and Net Management</p> <p>-Provided support for the development of the TDL PAM acquisition effort</p> <p>FY 2017 Plans:</p> <p>-Manage the development, certification, developmental training, and logistics plans for individual TDL implementations to joint/allied standards,</p> <p>- Provide management with the necessary engineering, technical and administrative support needed to facilitate development</p> <p>- Plan for testing, integration, and associated training for all MIDS LVT and MIDS JTRS upgrade configuration</p> <p>-Provide support to TDL interoperability testing of development and fielded systems through the DTF</p> <p>-Provide support for DoD-mandated TDL MIL-STD conformance testing and interoperability assessments for all TDL-capable Air Force platforms through the AFPTU</p> <p>-Conduct aerial layer network-focused studies and analysis that support data link enhancements</p> <p>-Assess tactical airborne network and network management gaps that are validated by existing requirements documents through the Network Centric Capability Assessments (NCCA)</p> <p>--Studies and analysis include, but are not limited to, supporting both current program planning and execution and future program planning efforts for TDN (e.g. development of joint concepts for C2 and network management of the Joint Aerial Layer Network (JALN), Combat Cloud, and JALN gateway planning)</p> <p>-Conduct Modeling and Simulation (M&S) analyses through the Air Force Modeling and Simulation Center (SIMAF)</p> <p>-Provide support to Coalition interoperability and provide program office system engineering to support NATO C3I, Foreign Military Sales (FMS) case development, FMS planning for technology refresh modifications, Crypto-Modernization and Net Management</p> <p>-Prepare the TDL PAM acquisition strategy and the RFP</p> <p>FY 2018 Plans:</p> <p>- Will continue to manage the development, certification, developmental training, and logistics plans for individual TDL implementations to joint/allied standards</p> <p>- Will continue to provide management with the necessary engineering, technical, and administrative support needed to facilitate development</p> <p>- Will continue to plan for testing, integration, and associated training for all MIDS LVT and MIDS JTRS upgrade configurations</p> <p>- Will continue to provide support to TDL interoperability testing of development and fielded systems through the DTF</p> <p>- Will continue support to DoD-mandated TDL MIL-STD conformance testing and interoperability assessments for all TDL-capable Air Force platforms through the AFPTU</p> | | | | |

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| B. Accomplishments/Planned Programs (\$ in Millions) | | FY 2016 | FY 2017 | FY 2018 |
| <ul style="list-style-type: none"> - Will continue to conduct aerial layer network focused studies and analysis that support data link enhancements - Will continue to assess tactical airborne network and network management gaps that are validated in existing requirements documents through the Network Centric Capability Assessments (NCCA) - Studies and analysis will include, but will not be limited to, supporting both current program planning and execution and future program planning efforts for TDN (e.g. development of joint concepts for C2 and network management of the Joint Aerial Layer Network (JALN), Combat Cloud, and JALN gateway planning) - Will continue to provide support to Coalition interoperability and provide program office system engineering to support NATO C3I, Foreign Military Sales (FMS) case development, FMS planning for technology refresh modifications, Crypto-Modernization, and Net Management - Will provide support to the DTF and AFPTU with required hardware and software upgrades and license renewals, which provide development and interoperability support for new capabilities and technology growth | | | | |
| <p>Title: Joint Interoperability of Tactical Command and Control Systems (JINTACCS)</p> <p>Description: Joint Interoperability of Tactical Command and Control Systems (JINTACCS) ensures interoperability of TDL systems with associated joint, allied, and Coalition systems. It includes configuration management of TDL Military Standards (MIL-STDs), TDL message development, interoperability test/certification, and TDL message standard implementation using interoperable System Management and Requirements Transformation (iSMART) for Link 11A/B, Link 16, Link 22, Variable Message Format (VMF), Integrated Broadcast Service (IBS), Intraflight Data Link (IFDL), Multifunction Advanced Data Link (MADL), and others.</p> <p>FY 2016 Accomplishments:</p> <ul style="list-style-type: none"> -Provided the necessary engineering, technical, and administrative support required to add and/or update Air Force platform and system information exchange requirements -Ensured compatibility and interoperability of TDLs by funding required Air Force/Joint MIL-STD compliance and interoperability tests -Ensured compatibility and interoperability of TDLs by developing TDL messaging capability to address new or updated operational requirements <p>FY 2017 Plans:</p> <ul style="list-style-type: none"> -Provide the necessary engineering, technical, and administrative support required to add and/or update Air Force platform and system information exchange requirements -Ensure compatibility and interoperability of TDLs by funding required Air Force/joint MIL-STD compliance and interoperability tests | | 6.850 | 6.924 | 7.068 |

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| B. Accomplishments/Planned Programs (\$ in Millions) | | FY 2016 | FY 2017 | FY 2018 |
| <p>-Ensure compatibility and interoperability of TDLs by developing TDL messaging capability to address new or updated operational requirements</p> <p>-Provide support to IFDL and MADL specific message translation development in support of the 5th-to-4th Generation Communications Capability</p> <p>FY 2018 Plans:</p> <p>-Will continue to provide the necessary engineering, technical, and administrative support required to add and/or update Air Force platform and system information exchange requirements</p> <p>-Will continue to ensure compatibility and interoperability of TDLs by funding required Air Force/joint MIL-STD compliance and interoperability tests</p> <p>-Will continue to ensure compatibility and interoperability of TDLs by developing TDL messaging capability to address new or updated operational requirements</p> <p>-Will continue to provide support to IFDL and MADL specific message translation development in support of the 5th-to-4th Generation Communications Capability</p> | | | | |
| <p>Title: Cursor on Target (CoT)</p> <p>Description: Cursor on Target (CoT) is an extensible, 'What, When, Where' (W3) XML message format for interconnecting Command, Control, Communication and Computer (C4), Intelligence, Surveillance and Reconnaissance (ISR) systems. The CoT suite consists of the W3 base schema, 14 tailored sub-schema, and a set of 10 software plug-ins and translators that facilitate Machine-to-Machine (M2M) transmission of Command and Control (C2), ISR, and situational awareness data at reduced cost compared with traditional integration methods.</p> <p>FY 2016 Accomplishments:</p> <p>-Supported the development, test, configuration and accreditation of new Cursor on Target (CoT) apps/plugin/debuggers</p> <p>-Pursued the development of the CoT Standardization Agreement (STANAG) or commercial standard</p> <p>-Pursued website set-up and development that provided additional support (e.g., tutorial videos, FAQs, message board, sign-up, etc.)</p> <p>-Provided engineering, technical, and administrative support needed to facilitate development and support the annual CoT User Group meeting</p> <p>-Planned discussions for integration/testing of CoT in the DTF</p> <p>FY 2017 Plans:</p> <p>-Support the development, test, re-certification, and re-accreditation of new CoT apps/plugin/debuggers</p> <p>-Develop website set-up that will continue to provide additional support (e.g., tutorial videos, FAQs, message board, sign-up, etc.)</p> <p>FY 2018 Plans:</p> | | 1.574 | 1.585 | 1.621 |

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| B. Accomplishments/Planned Programs (\$ in Millions) | | FY 2016 | FY 2017 | FY 2018 |
| <p>-Will continue to support development, test, re-certification and re-accreditation of new CoT apps/plugin/debuggers</p> <p>-Will pursue the development of the CoT MIL-STD in coordination with Air Force Standards Interoperability Board (AFSIB) and Joint Multi-Tactical Digital Information Link (Multi-TADIL) Standards Working Group (JMSWG)</p> <p>-Will continue to support the CoT website that will provide additional support (e.g., tutorial videos, FAQs, message board, sign-up, etc.)</p> <p>-Will pursue integration and testing of CoT in the DTF</p> | | | | |
| <p>Title: 5th to 4th Generation Gateway</p> <p>Description: 5th-to-4th Generation Gateway facilitates track sharing and sensor data between 5th Generation and 4th Generation aircraft as well as Command and Control (C2) nodes. The capabilities developed under this effort enable interoperability between data formats, protocols, and communication mediums. Additionally, these capabilities extend the connectivity range, consolidate data from multiple networks, domains and sensors into high capacity links for transmission to key C2ISR nodes, route information between disadvantaged users, and correlate data from multiple sources to facilitate early detection and tracking while enabling collaborative targeting. The addition of multi-domain capabilities as a future requirement of 5th-to-4th Generation communications capabilities enable track sharing at the tactical edge for the timely destruction of ground and airborne target sets. These additional capabilities are a combat force multiplier that enhance total force synergy for target prosecution and weapons employment. The initial increment will provide the baseline 5th-to-4th communication capability upon which future requirements will build capability.</p> <p>FY 2016 Accomplishments:</p> <p>-Finalized the development of 5th-to-4th Generation Gateway increment 1 materiel solution Request for Proposal (RFP)</p> <p>-Provided support for development of 5th-to-4th Generation communications capabilities</p> <p>-Planned for future upgrades</p> <p>FY 2017 Plans:</p> <p>-Provide systems engineering support to the 5th-to-4th Generation Gateway program manager to support engineering studies and development of communication capabilities</p> <p>-Provide Modeling and Simulation (M&S) and analyses support to program manager for planning 5th-to-4th Generation GW communications capabilities</p> <p>FY 2018 Plans:</p> <p>(FY18 and future funding in project 655262)</p> | | 6.194 | 12.771 | 0.000 |
| <p>Title: TDL Planning, Analysis, and Monitoring (TDL PAM)</p> <p>Description: This effort was previously captured in project 655050 under TDN Integration.</p> | | - | - | 1.952 |

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| B. Accomplishments/Planned Programs (\$ in Millions) | FY 2016 | FY 2017 | FY 2018 |
|--|----------------|----------------|----------------|
| <p>The use of digital information in the modern battlespace has increased significantly with the technological advances in areas such as Net-Enabled Weapon (NEW) systems, sensor systems, and tactical communications capabilities. The number of subscribers to Multi-TDL Networks (MTNs) continues to increase, especially on Link 16, which dramatically increases the complexity and management of MTNs. This increasing MTNs complexity/capabilities requires an automated toolset to effectively manage in order to support data links objectives. A TDL Planning, Analysis, and Monitoring (TDL PAM) tool will enable the Joint Interface Control Officer (JICO) to effectively accomplish MTN management tasks including, but not limited to managing the TDL interfaces that build a common tactical picture; creating, editing, and analyzing operational tasking data links messages; remedying network conflicts and outages, and performing other TDL analyses to enhance TDL performance.</p> <p>FY 2018 Plans:</p> <ul style="list-style-type: none"> - Will develop TDL PAM pre-acquisition documentation to inform MDD and draft RFP - Will begin initial systems engineering to assess the integration of TDL PAM capability into the AOC weapon system JICC architecture - Will perform studies and analysis, risk reduction and prototype user evaluation exercises (e.g. Bold Quest) | | | |
| <p>Title: SFF/DACAS Modernization and System-of-Systems (SoS) Enterprise Integration</p> <p>Description: This effort will support the development and demonstration of Small Form Factor (SFF) technologies that can support Digitally Assisted Close Air Support (DACAS) and other missions across the full spectrum of operating environments. This effort will consider System-of-Systems (SoS) engineering, technical analysis/performance, platform integration, and Tactics, Techniques, and Procedures (TTPs) to best utilize technologies and acquisition approaches for enterprise modernization.</p> <p>FY 2018 Plans:</p> <ul style="list-style-type: none"> -Will engage Subject Matter Expert (SME) and stakeholder community to identify initial demonstration objectives and intended technical performance -Will perform market research and/or analyze alternative materiel solutions -Will baseline key candidate solutions -Will establish initial evaluation/analysis process for SoS interoperability/capability | - | - | 7.000 |
| <p>Title: Applique Technologies for TDLs</p> <p>Description: This effort will develop and test low Size, Weight, and Power (SWaP) applique production kits to support TDL communications; it will incorporate proven techniques related to RF components, system interfaces, and platform integration. This effort will identify appropriate platforms, apertures, and interfaces and evaluate using representative flight environments and conditions.</p> <p>FY 2018 Plans:</p> | - | - | 0.900 |

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| B. Accomplishments/Planned Programs (\$ in Millions) | FY 2016 | FY 2017 | FY 2018 |
|--|----------------|----------------|----------------|
| -Will complete low SWaP prototype and develop production kit -Will identify and vet candidate platform(s) -Will complete lab integration testing and relevant Modeling, Simulation, and Analysis (MS&A) -Will prepare for ground and flight test activities -Will identify and develop necessary test equipment and infrastructure | | | |
| Title: Cognitive Enterprise Development and Baselining | - | - | 8.000 |
| Description: This effort will implement existing cognitive technologies into TDL terminals and investigate the integration of additional emerging technologies to improve communications reliability. Hardware, firmware, and software enhancements will accommodate these technologies. This effort will maintain a government-controlled technical baseline(s) to efficiently execute development and enhancements. Emerging technologies will be developed and evaluated for efficacy; recommendations will be identified for appropriate terminal fielding/upgrades to platforms and will be considered when evaluating enterprise TDL capabilities/gaps. | | | |
| FY 2018 Plans: -Will coordinate scope and schedule with terminal developers and stakeholders to establish technical baseline for future work -Will assess and mature emerging technologies in coordination with terminal developers and stakeholders | | | |
| Accomplishments/Planned Programs Subtotals | 26.482 | 34.990 | 35.585 |

| C. Other Program Funding Summary (\$ in Millions) | | | | | | | | | | | |
|---|----------------|----------------|-------------------------|------------------------|--------------------------|----------------|----------------|----------------|----------------|-----------------------------|-------------------|
| Line Item | FY 2016 | FY 2017 | FY 2018 Base | FY 2018 OCO | FY 2018 Total | FY 2019 | FY 2020 | FY 2021 | FY 2022 | Cost To Complete | Total Cost |
| • RDTE: BA07: PE 0207448F: <i>C2ISR TDL</i> | 1.629 | 1.515 | 1.754 | 0.000 | 1.754 | 1.751 | 1.783 | 1.814 | 1.852 | Continuing | Continuing |
| • APAF: BA05: Line Item #F01500: <i>F-15</i> | 2.837 | 0.000 | 0.844 | 0.000 | 0.844 | 46.903 | 53.211 | 40.167 | 20.933 | Continuing | Continuing |
| • APAF: BA05: Line Item #F01600: <i>F-16</i> | 3.200 | 6.447 | 0.000 | 0.000 | 0.000 | 6.755 | 8.371 | 8.525 | 8.695 | Continuing | Continuing |
| • APAF: BA05: Line Item #B00200: <i>B-2A</i> | 0.474 | 0.415 | 1.718 | 0.000 | 1.718 | 0.884 | 0.201 | 0.206 | 0.210 | Continuing | Continuing |
| • APAF: BA05: Line Item #B01B00: <i>B-1B</i> | 1.011 | 1.380 | 0.000 | 0.000 | 0.000 | 1.431 | 0.000 | 0.000 | 0.000 | Continuing | Continuing |
| • OPAF: BA03: Line Item #834010: <i>General Information Technology</i> | 0.002 | 1.842 | 0.312 | 0.000 | 0.312 | 0.177 | 0.180 | 1.698 | 1.701 | Continuing | Continuing |

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| Exhibit R-2A, RDT&E Project Justification: FY 2018 Air Force | | Date: May 2017 |
| Appropriation/Budget Activity 3600 / 5 | R-1 Program Element (Number/Name) PE 0604281F / <i>Tactical Data Networks Enterprise</i> | Project (Number/Name) 655050 / <i>TDL System Integration</i> |

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

| <u>Line Item</u> | <u>FY 2016</u> | <u>FY 2017</u> | <u>FY 2018</u> <u>Base</u> | <u>FY 2018</u> <u>OCO</u> | <u>FY 2018</u> <u>Total</u> | <u>FY 2019</u> | <u>FY 2020</u> | <u>FY 2021</u> | <u>FY 2022</u> | <u>Cost To</u> <u>Complete</u> | <u>Total Cost</u> |
|------------------|----------------|----------------|-------------------------------|------------------------------|--------------------------------|----------------|----------------|----------------|----------------|-----------------------------------|-------------------|
|------------------|----------------|----------------|-------------------------------|------------------------------|--------------------------------|----------------|----------------|----------------|----------------|-----------------------------------|-------------------|

Remarks

D. Acquisition Strategy

The Airborne Networking Directorate 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.

E. Performance Metrics

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.

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Exhibit R-3, RDT&E Project Cost Analysis: FY 2018 Air Force **Date:** May 2017

| | | |
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| Appropriation/Budget Activity 3600 / 5 | R-1 Program Element (Number/Name) PE 0604281F / <i>Tactical Data Networks Enterprise</i> | Project (Number/Name) 655050 / <i>TDL System Integration</i> |
|--|--|--|

| Product Development (\$ in Millions) | | | | FY 2016 | | FY 2017 | | FY 2018 Base | | FY 2018 OCO | | FY 2018 Total | Cost To Complete | Total Cost | Target Value of Contract |
|--|------------------------|--------------------------------|-------------|---------|------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Prior Years | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | | | |
| TDN Integration | Various | Various : Various | - | 1.101 | Jan 2016 | 1.700 | Jan 2017 | 3.642 | Jan 2018 | 0.000 | | 3.642 | Continuing | Continuing | - |
| TDN Integration - TDL PAM | MIPR | Various : Various | - | 0.500 | Mar 2016 | 2.000 | Mar 2017 | 0.000 | Mar 2018 | 0.000 | | 0.000 | Continuing | Continuing | - |
| 5th to 4th Generation Gateway | MIPR | Various : Various | - | 6.194 | Sep 2016 | 12.770 | Sep 2017 | 0.000 | | 0.000 | | 0.000 | Continuing | Continuing | - |
| SFF/DACAS Modernization and SoS Enterprise | MIPR | Various : Various | - | 0.000 | | 0.000 | | 7.000 | Mar 2018 | 0.000 | | 7.000 | Continuing | Continuing | - |
| Applique Technologies for TDLs | MIPR | Various : Various | - | 0.000 | | 0.000 | | 0.900 | Mar 2018 | 0.000 | | 0.900 | Continuing | Continuing | - |
| Cognitive Enterprise Development and Baselineing | MIPR | Various : Various | - | 0.000 | | 0.000 | | 8.000 | Mar 2018 | 0.000 | | 8.000 | Continuing | Continuing | - |
| Subtotal | | | - | 7.795 | | 16.470 | | 19.542 | | 0.000 | | 19.542 | - | - | - |

Remarks
 FY18 new efforts:
 - SFF/DACAS Modernization & SoS Enterprise Integration
 - Applique Technologies for TDLs
 - Cognitive Enterprise Development and Baselineing

| Support (\$ in Millions) | | | | FY 2016 | | FY 2017 | | FY 2018 Base | | FY 2018 OCO | | FY 2018 Total | Cost To Complete | Total Cost | Target Value of Contract |
|---------------------------------|------------------------|--------------------------------|-------------|---------|------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Prior Years | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | | | |
| TDN Integration - NCCA | C/T&M | MITRE : Bedford, MA | - | 1.315 | Dec 2015 | 1.400 | Oct 2016 | 1.650 | Oct 2017 | 0.000 | | 1.650 | Continuing | Continuing | - |
| Cursor on Target | C/T&M | MITRE : Bedford, MA | - | 1.404 | Dec 2015 | 1.300 | Oct 2016 | 1.320 | Oct 2017 | 0.000 | | 1.320 | Continuing | Continuing | - |
| Subtotal | | | - | 2.719 | | 2.700 | | 2.970 | | 0.000 | | 2.970 | - | - | - |

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Exhibit R-3, RDT&E Project Cost Analysis: FY 2018 Air Force **Date:** May 2017

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| Appropriation/Budget Activity 3600 / 5 | R-1 Program Element (Number/Name) PE 0604281F / <i>Tactical Data Networks Enterprise</i> | Project (Number/Name) 655050 / <i>TDL System Integration</i> |
|--|--|--|

| Test and Evaluation (\$ in Millions) | | | | FY 2016 | | FY 2017 | | FY 2018 Base | | FY 2018 OCO | | FY 2018 Total | Cost To Complete | Total Cost | Target Value of Contract |
|---|------------------------|--------------------------------------|-------------|---------|------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Prior Years | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | | | |
| TDN Integration- TDL PAM | MIPR | AFRL : Rome, NY | - | 0.000 | | 0.000 | | 1.302 | Feb 2018 | 0.000 | | 1.302 | Continuing | Continuing | - |
| TDN Integration - DTF | PO | 46th Test Squadron : Eglin AFB, FL | - | 1.000 | Mar 2016 | 1.358 | Feb 2017 | 1.358 | Feb 2018 | 0.000 | | 1.358 | Continuing | Continuing | - |
| JINTACCS | C/FFP | Spectrum Comm Inc : Newport News, VA | - | 2.171 | Feb 2016 | 2.731 | Feb 2017 | 6.700 | Feb 2018 | 0.000 | | 6.700 | Continuing | Continuing | - |
| TDN Integration - AFPTU | MIPR | Various : Various | - | 1.369 | Mar 2016 | 0.000 | Jun 2017 | 0.000 | | 0.000 | | 0.000 | Continuing | Continuing | - |
| TDN Integration--JALN AoA | MIPR | Various : Various | - | 3.554 | Mar 2016 | 5.379 | Mar 2017 | 0.000 | Mar 2018 | 0.000 | | 0.000 | Continuing | Continuing | - |
| Cursor on Target | PO | 46 TS : TBD | - | 0.000 | Nov 2016 | 0.000 | Nov 2017 | 0.000 | | 0.000 | | 0.000 | Continuing | Continuing | - |
| Subtotal | | | - | 8.094 | | 9.468 | | 9.360 | | 0.000 | | 9.360 | - | - | - |

| Management Services (\$ in Millions) | | | | FY 2016 | | FY 2017 | | FY 2018 Base | | FY 2018 OCO | | FY 2018 Total | Cost To Complete | Total Cost | Target Value of Contract |
|---|------------------------|--------------------------------|-------------|---------|------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Prior Years | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | | | |
| TDN Integration PMA - A&AS support - NCCA, Coalition Interoperability, JALN AoA | C/CPAF | Various : Various | - | 0.500 | May 2016 | 1.300 | Jan 2017 | 0.500 | Jan 2018 | 0.000 | | 0.500 | Continuing | Continuing | - |
| Cursor on Target PMA - A&AS support | C/CPAF | Various : Various | - | 0.171 | May 2016 | 0.211 | Dec 2016 | 0.296 | Jan 2018 | 0.000 | | 0.296 | Continuing | Continuing | - |
| TDN Integration PMA - FFRDC support - NCCA | C/T&M | MITRE : Bedford, MA | - | 0.160 | Dec 2015 | 1.700 | Oct 2016 | 0.500 | Oct 2017 | 0.000 | | 0.500 | Continuing | Continuing | - |
| TDN Integration PMA - FFRDC support - Coalition Interoperability, JALN AoA | C/T&M | MITRE : Bedford, MA | - | 5.590 | Jan 2016 | 1.841 | Oct 2016 | 0.619 | Oct 2017 | 0.000 | | 0.619 | Continuing | Continuing | - |
| TDN Integration PMA - Travel, Government Purchase Cards, etc...DTF, NCCA, Coalition | Various | Various : Various | - | 1.127 | Jan 2016 | 0.900 | Jan 2017 | 0.750 | Jan 2018 | 0.000 | | 0.750 | Continuing | Continuing | - |

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| Exhibit R-4, RDT&E Schedule Profile: FY 2018 Air Force | | Date: May 2017 |
| Appropriation/Budget Activity 3600 / 5 | R-1 Program Element (Number/Name) PE 0604281F / <i>Tactical Data Networks Enterprise</i> | Project (Number/Name) 655050 / <i>TDL System Integration</i> |

| | FY 2016 | | | | FY 2017 | | | | FY 2018 | | | | FY 2019 | | | | FY 2020 | | | | FY 2021 | | | | FY 2022 | | | |
|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|
| | 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 |
| TDN Integration | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| JINTACCS | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Cursor on Target (CoT) | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5th to 4th Generation Gateway - Development | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5th to 4th Development/Production Contract Award (Nov 2018) | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5th to 4th Milestone C (Feb 2020) | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TDL Planning, Analysis, and Monitoring (TDL PAM) | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SFF/DACAS Modernization and SoS Enterprise Integration | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Applique Technologies for TDLs | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Cognitive Enterprise Development and Baselineing | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

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| Exhibit R-4A, RDT&E Schedule Details: FY 2018 Air Force | | Date: May 2017 |
| Appropriation/Budget Activity 3600 / 5 | R-1 Program Element (Number/Name) PE 0604281F / <i>Tactical Data Networks Enterprise</i> | Project (Number/Name) 655050 / <i>TDL System Integration</i> |

Schedule Details

| Events | Start | | End | |
|---|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| TDN Integration | 1 | 2016 | 4 | 2022 |
| JINTACCS | 1 | 2016 | 4 | 2022 |
| Cursor on Target (CoT) | 1 | 2016 | 4 | 2022 |
| 5th to 4th Generation Gateway - Development | 1 | 2016 | 2 | 2020 |
| 5th to 4th Development/Production Contract Award (Nov 2018) | 1 | 2018 | 1 | 2018 |
| 5th to 4th Milestone C (Feb 2020) | 2 | 2020 | 2 | 2020 |
| TDL Planning, Analysis, and Monitoring (TDL PAM) | 1 | 2018 | 4 | 2022 |
| SFF/DACAS Modernization and SoS Enterprise Integration | 1 | 2018 | 4 | 2022 |
| Applique Technologies for TDLs | 1 | 2018 | 4 | 2022 |
| Cognitive Enterprise Development and Baselineing | 1 | 2018 | 4 | 2022 |

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|---|--------------------|----------------|----------------|---------------------|--|----------------------|----------------|----------------|--|-----------------------|-------------------------|-------------------|
| Exhibit R-2A, RDT&E Project Justification: FY 2018 Air Force | | | | | | | | | | Date: May 2017 | | |
| Appropriation/Budget Activity 3600 / 5 | | | | | R-1 Program Element (Number/Name) PE 0604281F / <i>Tactical Data Networks Enterprise</i> | | | | Project (Number/Name) 655262 / <i>Family of Gateways</i> | | | |
| COST (\$ in Millions) | Prior Years | FY 2016 | FY 2017 | FY 2018 Base | FY 2018 OCO | FY 2018 Total | FY 2019 | FY 2020 | FY 2021 | FY 2022 | Cost To Complete | Total Cost |
| 655262: <i>Family of Gateways</i> | - | 23.013 | 47.390 | 2.665 | 0.000 | 2.665 | 36.715 | 0.000 | 0.000 | 0.000 | Continuing | Continuing |
| Quantity of RDT&E Articles | - | - | - | - | - | - | - | - | - | - | | |

A. Mission Description and Budget Item Justification

Family of Gateways provides for the study (acquisitions current and proposed), analysis, enhancement, development, integration, costing, demonstration, test, and evaluation efforts that will allow joint combat forces to exchange information quickly and accurately by bridging discrete airborne, terrestrial, maritime, and space-based C4ISR networks producing operational effects not possible within individual networks. Gateway functions include enabling interoperability between data formats, protocols, and communication mediums. Additionally, gateway functions extend the connectivity range, consolidate data from multiple networks into high capacity links for transmission to key C2ISR nodes, route information between disadvantaged users, and fuse/correlate data from multiple sources to improve accuracy. Gateway functions also provide application hosting, shared data storage, on-demand information access, smart data forwarding, and system monitoring and network management. Further, this project supports 5th-to-4th Generation communications capabilities, 5th-to-5th Generation efforts and future TDL communications development. Additionally, Family of Gateways will support to enhance existing TDL performance, through upgrades and engineering analysis of system designs. Efforts in this project include waveform, ground, and rapid acquisition activities supporting Air Force requirements for communications bridging across multiple platforms, sources and communication domains.

Activities also include studies, analysis, demonstrations and experiments to support both current program planning/execution and future program planning efforts for Family of Gateways.

B. Accomplishments/Planned Programs (\$ in Millions)

| | FY 2016 | FY 2017 | FY 2018 |
|--|----------------|----------------|----------------|
| Title: 5th-to-4th Generation Gateway | 23.013 | 47.390 | 2.665 |
| Description: 5th-to-4th Generation Gateway facilitate sharing track and sensor data between 5th Generation and 4th Generation aircraft as well as Command and Control (C2) nodes. The capabilities developed under this effort enable interoperability between data formats, protocols, and communication mediums. Additionally, these capabilities extend the connectivity range, consolidate data from multiple networks, domains and sensors into high capacity links for transmission to key C2ISR nodes, route information between disadvantaged users, and correlate data from multiple sources to facilitate early detection and tracking while enabling collaborative targeting. The addition of multi-domain capabilities as a future requirement of 5th-to-4th Generation communications capability enables track sharing at the tactical edge for the timely destruction of ground and airborne target sets. These additional capabilities are a combat force multiplier that enhance total force synergy for target prosecution and weapons employment. The initial increment will provide the baseline 5th-to-4th communication capability upon which future requirements will build capability. | | | |
| FY 2016 Accomplishments: | | | |

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| Exhibit R-2A, RDT&E Project Justification: FY 2018 Air Force | | Date: May 2017 |
| Appropriation/Budget Activity 3600 / 5 | R-1 Program Element (Number/Name) PE 0604281F / <i>Tactical Data Networks Enterprise</i> | Project (Number/Name) 655262 / <i>Family of Gateways</i> |

| B. Accomplishments/Planned Programs (\$ in Millions) | FY 2016 | FY 2017 | FY 2018 |
|--|----------------|----------------|----------------|
| - Developed 5th-to-4th communications testing capabilities -- Enhanced SIMAF capabilities to represent 5th generation platform in relevant modeling/simulation environments -- Enhanced 46 TS lab to enable 5th generation waveform testing - Executed various risk reduction activities at PEO direction FY 2017 Plans: -Develop the 5th-to-4th Generation GW / communications capabilities -Engage in field experiments with waveform and network connectivity in both live fly and laboratory demonstrations -Engage in targeted projects and experiments to improve the reliability and effectiveness of the Link 16 waveform FY 2018 Plans: -Will continue to develop the 5th-to-4th Generation GW / communications capabilities -Will upgrade the 46 TS facility to MADL capability and conduct Link-16 NDL development demo | | | |
| Accomplishments/Planned Programs Subtotals | 23.013 | 47.390 | 2.665 |

| C. Other Program Funding Summary (\$ in Millions) | | | | | | | | | | | |
|---|----------------|----------------|-------------------------------|------------------------------|--------------------------------|----------------|----------------|----------------|----------------|-----------------------------------|-------------------|
| <u>Line Item</u> | <u>FY 2016</u> | <u>FY 2017</u> | <u>FY 2018</u> <u>Base</u> | <u>FY 2018</u> <u>OCO</u> | <u>FY 2018</u> <u>Total</u> | <u>FY 2019</u> | <u>FY 2020</u> | <u>FY 2021</u> | <u>FY 2022</u> | <u>Cost To</u> <u>Complete</u> | <u>Total Cost</u> |
| • RDTE: BA07: PE 0207448F: <i>C2ISR TDL</i> | 1.629 | 1.515 | 1.754 | 0.000 | 1.754 | 1.751 | 1.783 | 1.814 | 1.852 | Continuing | Continuing |
| • APAF: BA05: Line Item #F01500: <i>F-15</i> | 2.837 | 0.000 | 0.844 | 0.000 | 0.844 | 46.903 | 53.211 | 40.167 | 20.933 | Continuing | Continuing |
| • APAF: BA05: Line Item #F01600: <i>F-16</i> | 3.200 | 6.447 | 0.000 | 0.000 | 0.000 | 6.755 | 8.371 | 8.525 | 8.695 | Continuing | Continuing |
| • APAF: BA05: Line Item #B00200: <i>B-2A</i> | 0.474 | 0.415 | 1.718 | 0.000 | 1.718 | 0.884 | 0.201 | 0.206 | 0.210 | Continuing | Continuing |
| • APAF: BA05: Line Item #B01B00: <i>B-1B</i> | 1.011 | 1.380 | 0.000 | 0.000 | 0.000 | 1.431 | 0.000 | 0.000 | 0.000 | Continuing | Continuing |
| • OPAF: BA03: Line Item #834010: <i>General Information Technology</i> | 0.002 | 1.842 | 0.312 | 0.000 | 0.312 | 0.177 | 0.180 | 1.698 | 1.701 | Continuing | Continuing |

Remarks

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| Exhibit R-2A, RDT&E Project Justification: FY 2018 Air Force | | Date: May 2017 |
| Appropriation/Budget Activity 3600 / 5 | R-1 Program Element (Number/Name) PE 0604281F / <i>Tactical Data Networks Enterprise</i> | Project (Number/Name) 655262 / <i>Family of Gateways</i> |

D. Acquisition Strategy

The Airborne Networking Directorate 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. Contract approaches vary by program.

E. Performance Metrics

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.