Section A: Overview (All Capital Assets)

1. Date of Submission:	9/10/2007
2. Agency:	Department of Transportation
3. Bureau:	Federal Aviation Administration
4. Name of this Capital Asset:	FAAXX504: En Route Automation Modernization (ERAM)
5. Unique Project (Investment) Identifier: (For IT investment only, see section 53. For all other, use agency ID system.)	021-12-01-11-01-1150-00
6. What kind of investment will this be in FY2009? (Please NOTE: Investments moving to O&M in FY2009, with Planning/Acquisition activities prior to FY2009 should not select O&M. These investments should indicate their current status.)	Mixed Life Cycle
7. What was the first budget year this investment was submitted to OMB?	FY2004

8. Provide a brief summary and justification for this investment, including a brief description of how this closes in part or in whole an identified agency performance gap:

The En Route Automation Modernization (ERAM) program replaces the air traffic control automation system in Air Route Traffic Control Centers (ARTCCs). The program includes: new system software and hardware (replaces the existing Host Computer System); Enhanced Backup Surveillance (EBUS) system (replaces Direct Access Radar Channel backup system); replacement of portions of the display system infrastructure; technical refresh of the Radar Position Display Processor; and En Route Information Display System (ERIDS), an electronic tool that distributes information to air traffic controllers to improve their productivity and efficiency. ERAM will enable improvements in airspace capacity, efficiency and safety (supports DOT/FAA Strategic Goals of Reduced Congestion, Safety and Greater Capacity, see Section I.D) that cannot be realized with the current 30-year old system. It offers flexible routing options, provides safety alerts to prevent collisions and congestion and enables controllers to better handle unplanned events. ERAM's enhanced infrastructure will support the evolution to the next generation air transportation system, including network-enabled operations and Automatic Dependent Surveillance-Broadcast support. ERAM is both in the control and evaluate phases of the CPIC process. EBUS is deployed and operational at all 20 ARTCCs. ERIDS is currently deployed and operational at 14 ARTCCs and will complete deployment in December 2007. In FY2009, the focus is on completing the installation of ERAM at the ARTCCs, continue testing and Government Acceptance at sites where equipment was previously installed and providing maintenance support to include second level engineering, hardware/software and depot logistics support. The ERAM team collaborates regularly with the Department of Defense and the Department of Homeland Security who rely on FAA surveillance, and aircraft tracking data to achieve their missions. The FAA executive decision-making body reviewed and approved the final program baseline for DME and O&M on 6/12/03. To date, no JRC re-baseline decisions have been needed. The lifecycle costs for the ERAM were risk-adjusted as part of the (1) work breakdown structure development, (2) addition of risk dollars in selected areas and (3) the addition of a schedule risk adjustment for the full implementation of ERAM (see Section II.B for details). Expected life cycle is 10 years after the last system deployment. PART weakness (I.A.8) is not specific to ERAM.

9. Did the Agency's Executive/Investment Committee approve this request?	Yes
a. If "yes," what was the date of this approval?	6/12/2003
10. Did the Project Manager review this Exhibit?	Yes
11. Contact information of Project Manager?	
Name	Watts, Daniel, Level 3 Project Management Professional (PMI), MS, BS
Phone Number	Redacted
Email	dan.watts@faa.gov
a. What is the current FAC-P/PM certification level of the project/program manager?	TBD
12. Has the agency developed and/or promoted cost effective, energy-efficient and environmentally sustainable techniques or practices for this project?	Yes
a. Will this investment include electronic assets (including computers)?	Yes
b. Is this investment for new construction or major retrofit of a Federal building or facility? (answer applicable to non-IT assets only)	No
1. If "yes," is an ESPC or UESC being used to help fund this investment?	

2. If "yes," will this investment meet sustainable design principles?

3. If "yes," is it designed to be 30% more energy efficient than relevant code?

13. Does this investment directly support one of the PMA initiatives?   No

If "yes," check all that apply:

a. Briefly and specifically describe for each selected how this asset directly supports the identified initiative(s)? (e.g. If E-Gov is selected, is it an approved shared service provider or the managing partner?)

14. Does this investment support a program assessed using the Program Assessment Rating Tool (PART)? (For more information about the PART, visit www.whitehouse.gov/omb/part.)   Yes

a. If "yes," does this investment address a weakness found during a PART review?   Yes

b. If "yes," what is the name of the PARTed program?   Air Traffic Services

c. If "yes," what rating did the PART receive?   Adequate

15. Is this investment for information technology?   Yes

If the answer to Question 15 is "Yes," complete questions 16-23 below. If the answer is "No," do not answer questions 16-23.

For information technology investments only:

16. What is the level of the IT Project? (per CIO Council PM Guidance)   Level 3

17. What project management qualifications does the Project Manager have? (per CIO Council PM Guidance)   (1) Project manager has been validated as qualified for this investment

18. Is this investment or any project(s) within this investment identified as "high risk" on the Q4 - FY 2007 agency high risk report (per OMB Memorandum M-05-23)   Yes

19. Is this a financial management system?   No

a. If "yes," does this investment address a FFMIA compliance area?

1. If "yes," which compliance area:

2. If "no," what does it address?

b. If "yes," please identify the system name(s) and system acronym(s) as reported in the most recent financial systems inventory update required by Circular A-11 section 52

20. What is the percentage breakout for the total FY2009 funding request for the following? (This should total 100%)

Hardware	17.000000
Software	48.000000
Services	35.000000
Other	

21. If this project produces information dissemination products for the public, are these products published to the Internet in conformance with OMB Memorandum 05-04 and included in your agency inventory, schedules and priorities?   N/A

22. Contact information of individual responsible for privacy related questions:

Name	Mauney, Carla
Phone Number	Redacted
Title	Privacy Officer
E-mail	carla.mauney@faa.gov

23. Are the records produced by this investment appropriately scheduled with the National Archives and Records Administration's approval?   No

Question 24 must be answered by all Investments:

24. Does this investment directly support one of the GAO High Risk Areas?   Yes

Section B: Summary of Spending (All Capital Assets)

1. Provide the total estimated life-cycle cost for this investment by completing the following table. All amounts represent budget authority in millions, and are rounded to three decimal places. Federal personnel costs should be included only in the row designated "Government FTE Cost," and should be excluded from the amounts shown for "Planning," "Full Acquisition," and "Operation/Maintenance." The "TOTAL" estimated annual cost of the investment is the sum of costs for "Planning," "Full Acquisition," and "Operation/Maintenance." For Federal buildings and facilities, life-cycle costs should include long term energy, environmental, decommissioning, and/or restoration costs. The costs associated with the entire life-cycle of the investment should be included in this report.

Table 1: SUMMARY OF SPENDING FOR PROJECT PHASES (REPORTED IN MILLIONS) (Estimates for BY+1 and beyond are for planning purposes only and do not represent budget decisions)									
	PY-1 and earlier	PY 2007	CY 2008	BY 2009	BY+1 2010	BY+2 2011	BY+3 2012	BY+4 and beyond	Total
Planning:	1.4	0	0	0	Redacted	Redacted	Redacted	Redacted	Redacted
Acquisition:	892.8	375	368	202.2	Redacted	Redacted	Redacted	Redacted	Redacted
Subtotal Planning & Acquisition:	894.2	375	368	202.2	Redacted	Redacted	Redacted	Redacted	Redacted
Operations & Maintenance:	0	0	9.38	10.042	Redacted	Redacted	Redacted	Redacted	Redacted
TOTAL:	894.2	375	377.38	212.242	Redacted	Redacted	Redacted	Redacted	Redacted
Government FTE Costs should not be included in the amounts provided above.									
Government FTE Costs	30.608	7.9	11.991	30.217	Redacted	Redacted	Redacted	Redacted	Redacted
Number of FTE represented by Costs:	198	48	84	250	Redacted	Redacted	Redacted	Redacted	Redacted

Note: For the multi-agency investments, this table should include all funding (both managing partner and partner agencies). Government FTE Costs should not be included as part of the TOTAL represented.

2. Will this project require the agency to hire additional FTE's?   No

    a. If "yes," How many and in what year?

3. If the summary of spending has changed from the FY2008 President's budget request, briefly explain those changes:

Redacted

Section C: Acquisition/Contract Strategy (All Capital Assets)

1. Complete the table for all (including all non-Federal) contracts and/or task orders currently in place or planned for this investment. Total Value should include all option years for each contract. Contracts and/or task orders completed do not need to be included.

Contracts/Task Orders Table: * Costs in millions

Contract or Task Order Number	Type of Contract/ Task Order	Has the contract been awarded (Y/N)	If so what is the date of the award? If not, what is the planned award date?	Start date of Contract/ Task Order	End date of Contract/ Task Order	Total Value of Contract/ Task Order ($M)	Is this an Interagency Acquisition ? (Y/N)	Is it performance based? (Y/N)	Competitively awarded? (Y/N)	What, if any, alternative financing option is being used? (ESPC, UESC, EUL, N/A)	Is EVM in the contract? (Y/N)	Does the contract include the required security & privacy clauses? (Y/N)	Name of CO	CO Contact information (phone/email)	Contracting Officer Certification Level (Level 1,2,3,N/A)	If N/A, has the agency determined the CO assigned has the competencies and skills necessary to support this acquisition? (Y/N)
Redacted																

2. If earned value is not required or will not be a contract requirement for any of the contracts or task orders above, explain why:

The ERAM prime contract requires earned value (EV) to be accomplished by the contractor per EIA-748A. For the other contracts, basically support contracts) supporting the ERAM program, EV is not included as these contracts were awarded prior to the AMS requirement in CY2005 for EVM. EV for these contracts is included in the EV performed at the program level by the program office. The support contracts (to include T&M) do not induce risk into the program. Rather they assist the Program Manager in controlling cost, schedule and technical risk to the prime contractor. The value of the work is determined each year and a statement of work is used to direct the contractor's efforts. The Government support work is closely aligned with the work required of the prime contractor and is compliant with EIA-748A, section 3.7.3, which defines the use of level of effort as an EV methodology. The EV for the work is spread evenly over the calendar year. The work is constantly monitored through records of documents reviewed, papers written, support provided for specific efforts, and through monthly program and cost reviews. With this close monitoring of support contractor efforts (especially those that are T&M), the program office can rapidly direct efforts to most efficiently support the needs of the program. Two support contracts are award fee based and the contractor's performance is assessed on a periodic basis. EV is computed monthly at the ERAM program segment level. Monthly program EVM calculations are accomplished using the prime contractor's EVM data and determining the actual/estimated costs for non-prime contractor LOE EVM activities. Future contacts/options will be reviewed for EVM and FFP applicability. In April/May 2005, the program initiated an independent review of its program management system practices and EVM capabilities. The review rigorously assessed the program's current EVM implementation using FAA approved compliance criteria aligned with EIA-748A. The assessment approach report was tailored to the program's current lifecycle stage. The assessment required a review of the EVM implementation documentation and interviews with the program staff including the program manager, control account managers, schedulers and business managers. The independent assessment team determined that the ERAM program had established fully compliant EVM practices consistent with EIA-748A. The ERAM Acquisition Plan is being updated with planned approval by June 2008.

3. Do the contracts ensure Section 508 compliance?	Yes
a. Explain why:	The ERAM contract statement of work (SOW) specifies that the ERAM system shall be designed so that operator/maintainer tasks and system transactions and equipment comply with applicable provisions of the Rehabilitation Act of 1973 as amended, including 36 CFR 1194 implementation of electronic and information technology (EIT) accessibility standards. User acceptance testing will be used to verify Section 508 compliance as part of the implementation activities.
4. Is there an acquisition plan which has been approved in accordance with agency requirements?	Yes
a. If "yes," what is the date?	6/12/2003
b. If "no," will an acquisition plan be developed?	
1. If "no," briefly explain why:	

Section D: Performance Information (All Capital Assets)

In order to successfully address this area of the exhibit 300, performance goals must be provided for the agency and be linked to the annual performance plan. The investment must discuss the agency's mission and strategic goals, and performance measures (indicators) must be provided. These goals need to map to the gap in the agency's strategic goals and objectives this investment is designed to fill. They are the internal and external performance benefits this investment is expected to deliver to the agency (e.g., improve efficiency by 60 percent, increase citizen participation by 300 percent a year to achieve an overall citizen participation rate of 75 percent by FY 2xxx, etc.). The goals must be clearly measurable investment outcomes, and if applicable, investment outputs. They do not include the completion date of the module, milestones, or investment, or general goals, such as, significant, better, improved that do not have a quantitative or qualitative measure.

Agencies must use the following table to report performance goals and measures for the major investment and use the Federal Enterprise Architecture (FEA) Performance Reference Model (PRM). Map all Measurement Indicators to the corresponding "Measurement Area" and "Measurement Grouping" identified in the PRM. There should be at least one Measurement Indicator for each of the four different Measurement Areas (for each fiscal year). The PRM is available at www.egov.gov. The table can be extended to include performance measures for years beyond FY 2009.

Performance Information Table								
Fiscal Year	**Strategic Goal(s) Supported**	**Measurement Area**	**Measurement Category**	**Measurement Grouping**	**Measurement Indicator**	**Baseline**	**Target**	**Actual Results**
2005	Reduced Congestion	Customer Results	Service Accessibility	Availability	Availability of weather service radar data to the Air Traffic Controllers during backup operations for planned and unplanned outages of the HOST system.	Current baseline is that no weather service radar data is provided while operating on backup system (DARC) during planned and unplanned outages of the HOST system.	EBUS backup system will provide weather service radar data. (Next Generation Radar (NEXRAD)). (Capability available at Denver ARTCC in April, 05).	Completed. EBUS is providing weather service radar data [Next Generation Radar (NEXRAD)] during periods of planned and unplanned outages of the

Performance Information Table							
Fiscal Year	**Strategic Goal(s) Supported**	**Measurement Area**	**Measurement Category**	**Measurement Grouping**	**Measurement Indicator**	**Baseline**	**Target**	**Actual Results**
								HOST system as compared to no weather data for the system it replaced.
2005	Reduced Congestion	Mission and Business Results	Transportation	Air Transportation	Availability of safety alerts during backup operations for planned and unplanned outages of the HOST system.	Current baseline is that no safety alerts are provided while operating on backup system (DARC) during planned and unplanned outages of the HOST system.	EBUS backup system will provide safety alert capability (Capability available at Denver ARTCC in April, 05).	Completed. EBUS is providing safety alerts as compared to no safety alerts for the system it replaced.
2005	Reduced Congestion	Processes and Activities	Financial (Processes and Activities)	Savings and Cost Avoidance	Maintenance Cost	Previous 12 months maintenance effort (Mean time to failure, number and length of service calls) as recorded in the Maintenance Management System (MMS) for the DARC system operation at Denver ARTCC.	EBUS will reduce the maintenance effort (Mean time to failure, number and length of service calls) per EBUS site fielded.	Completed. EBUS was accepted in FY05 and is operational at all 20 ARTCCs. System testing confirmed the system was more reliable. A sufficient quantity of systems will be operational in FY06 to begin analysis.
2005	Reduced Congestion	Technology	Efficiency	Improvement	Number of maintenance actions required by the HOST backup system (DARC). (Note: Measurement Area re-categorized from BY 07 to better align with performance indicator). (Previously reported MA: Customer Results).	DARC maintenance action baseline will be determined by analysis of the Maintenance Management System (MMS) by period (FY and month) and cause code for Denver ARTCC site.	EBUS will require less maintenance actions.	Completed. EBUS was accepted in FY05 and is now deployed and operational at all 20 ARTCCs. A sufficient quantity of systems will be operational in FY06 to begin analysis.
2005	Reduced Congestion	Technology	Reliability and Availability	Availability	DARC (HOST backup system) Availability	DARC system availability is 0.995. Baseline value will be determined from analysis of the Operations Network (OPSNET) data.	EBUS Availability is 0.9998.	Completed. EBUS was accepted in FY05 and is now deployed and operational at all 20 ARTCCs. System testing confirmed the system was more reliable. A sufficient quantity of systems will be operational in FY06 to begin an availability analysis.
2006	Reduced Congestion	Customer Results	Service Accessibility	Availability	Availability of weather service radar data (at all 20 ARTCCs) during planned or unplanned HOST system outages.	Current baseline is that no weather service radar data is available during planned or unplanned HOST system outages.	EBUS (backup system replacement) will provide weather service radar data (Next Generation Radar (NEXRAD)). (Capability available at initial five (5) ARTCCs by 10/05, and all twenty (20) ARTCCs in FY06.)	Completed. EBUS is providing NEXRAD weather data during periods of planned and unplanned outages of the HOST system as compared to no weather data for the system it replaced.
2006	Reduced	Customer	Timeliness and	Delivery Time	Time required	Current	90% of data	Completed.

Performance Information Table								
Fiscal Year	Strategic Goal(s) Supported	Measurement Area	Measurement Category	Measurement Grouping	Measurement Indicator	Baseline	Target	Actual Results
	Congestion	Results	Responsiveness		for air traffic controllers to access aeronautical information (e.g. Notice to Airmen (NOTAMS), Pilot reports, aeronautical charts, etc.).	publications are only in hardcopy and can take up to 15 minutes to research and deliver the information to the pilot.	product requests satisfied within 5 seconds and data will be available for requests 7.5 minutes from the time it enters the center.	ERIDS Key Site IOC achieved 6/7/06 and 5 sec requirement was achieved in FY06. Data measurements and human factor studies are in progress to validate the planned 7.5 min improvement to the baseline. Estimated Completion date is 12/07.
2006	Reduced Congestion	Mission and Business Results	Transportation	Air Transportation	Availability of safety alerts (at all 20 ARTCCs) during backup operations for planned and unplanned outages of the HOST system.	Current baseline is that no safety alerts are provided while operating on backup system (DARC) during planned and unplanned outages of the HOST system.	EBUS backup system will maintain the capability achieved in 2005 of providing safety alert capability (100% improvement over the baseline) as provided while operating under the HOST system. (Capability available at all twenty (20) ARTCCs 3/01/06).	Completed. EBUS provides safety alerts during periods of planned and unplanned outages of the HOST system as compared to providing no safety alerts (100% improvement over the baseline) for the system it replaced.
2006	Reduced Congestion	Processes and Activities	Financial (Processes and Activities)	Savings and Cost Avoidance	Maintenance Cost	Previous 12 months maintenance effort (Mean time to failure, number and length of service calls) as recorded in the Maintenance Management System (MMS) for the DARC system operation at Denver ARTCC.	EBUS will reduce the maintenance effort (Mean time to failure, number and length of service calls) per EBUS site fielded.	Completed. Mean-Time Between Corrective Maintenance Actions (MTBCMA) of DARC vs. EBUS improved from 229 hours to 1012 hours, a reduction of 207 maintenance actions per site. This equates to a cost savings of $11,921 per site ($238,423 for 20 sites).
2006	Reduced Congestion	Processes and Activities	Financial (Processes and Activities)	Savings and Cost Avoidance	Maintenance Cost	Previous 12 months maintenance effort (Mean time to failure, number and length of service calls) as recorded in the Maintenance Management System (MMS) for the DARC system operation at Denver ARTCC.	EBUS will reduce the maintenance effort (by at least 10%) (Mean time to failure, number and length of service calls) per EBUS site fielded.	Completed. Mean-Time Between Corrective Maintenance Actions (MTBCMA) of DARC vs. EBUS improved from 229 hours to 1012 hours, a reduction of 207 maintenance actions per site. This equates to a cost savings of $11,921 per site ($238,423 for 20 sites).
2006	Reduced Congestion	Technology	Efficiency	Improvement	Number of maintenance actions required by the HOST backup system (DARC). (Note: Measurement Area re-categorized from BY 07 to better align with	DARC maintenance action baseline will be determined by analysis of the Maintenance Management System (MMS) by period and cause code for	EBUS will require less maintenance actions.	Completed. EBUS is deployed and operational at all 20 ARTCCs. The number of Corrective Maintenance Actions (CMAs) of DARC vs. EBUS decreased

Performance Information Table							
Fiscal Year	**Strategic Goal(s) Supported**	**Measurement Area**	**Measurement Category**	**Measurement Grouping**	**Measurement Indicator**	**Baseline**	**Target**	**Actual Results**
					performance indicator). (Previously reported MA: Customer Results).	Denver ARTCC site.		from 767 to 110.
2006	Reduced Congestion	Technology	Efficiency	Improvement	Number of maintenance actions required by the HOST backup system (DARC). (Note: Measurement Area re-categorized from BY 07 to better align with performance indicator). (Previously reported MA: Customer Results).	DARC maintenance action baseline will be determined by analysis of the Maintenance Management System (MMS) by period and cause code for Denver ARTCC site.	EBUS will require less maintenance actions (at least a 5% reduction).	Completed. EBUS is deployed and operational at all 20 ARTCCs. The number of Corrective Maintenance Actions (CMAs) of DARC vs. EBUS decreased from 767 to 110 (greater than 5%).
2006	Reduced Congestion	Technology	Reliability and Availability	Availability	Availability of the HOST backup system (DARC) to support planned and unplanned outages of the primary HOST system.	DARC system availability is 0.995 at 20 sites. Baseline value will be determined from analysis of the Operations Network (OPSNET).	EBUS (backup system) availability is 0.9998 at all sites.	Completed. EBUS system availability for unscheduled full interruptions measured in FY06 at 0.9999742.
2007	Reduced Congestion	Customer Results	Timeliness and Responsiveness	Delivery Time	Time required for air traffic controllers to access aeronautical information (e.g. Notice to Airmen (NOTAMS), Pilot reports, aeronautical charts, etc.).	Current information can take up to 15 minutes to be available from the time requested to the time delivered.	90% of data product requests satisfied within 5 seconds and Data will be available for requests 7.5 minutes from the time it enters the center.	Completed. The 5 second requirement was validated during system testing in FY 06. Site analysis conducted in FY07 measured less than 7.5 minute operational response.
2007	Reduced Congestion	Mission and Business Results	Information and Technology Management	Information Systems Security	Number of Intrusion Detection/Audit Features	Existing IT Host Security intrusion detection/audit features in Certification and Authorization Package (SCAP).	Enhanced IT Host Security features in ERAM SCAP that includes intrusion detection, security audit features, and other state-of-the-art security requirements mitigating the risks identified.	Completed. System software development complete and Factory Acceptance Testing was started in June 2007. The enhanced security features are incorporated in the design. Final SCAP to validate completion will not be complete until first site IOC.
2007	Reduced Congestion	Mission and Business Results	Transportation	Air Transportation	Increase availability of safety alerts during backup operations for planned and unplanned outages of the HOST system.	EBUS is fully fielded and operation at all sites.	EBUS backup system will maintain the capability achieved in 2005 of providing the Safety alert capability (100% improvement over the baseline) while operating under the HOST system.	Completed. EBUS is deployed and operational at all 20 ARTCCs. This goal was achieved in 2006 and will not be reported in BY 09 Exhibit-300 for FY07 and later years.
2007	Reduced Congestion	Mission and Business Results	Transportation	Air Transportation	Availability of critical flight data processing (at all 20 ARTCCs)	Service availability for the critical flight data processing is 0.999.	Projected flight data processing service availability for ERAM is 0.99998.	Completed. System reliability, maintainability, availability analysis has

Performance Information Table								
Fiscal Year	**Strategic Goal(s) Supported**	**Measurement Area**	**Measurement Category**	**Measurement Grouping**	**Measurement Indicator**	**Baseline**	**Target**	**Actual Results**
								validated this capability.
2007	Reduced Congestion	Mission and Business Results	Transportation	Air Transportation	Number of Radar	HOST has 24 radar feeds.	ERAM will provide 64 Radars (at least a 50% improvement over the baseline) for increased radar coverage and expanded ATC services.	Testing to confirm the ability to feed up to 64 radars. Anticipate this to be completed by end of FY07.
2007	Reduced Congestion	Mission and Business Results	Transportation	Air Transportation	Number of Aircraft the Air Traffic Control Radar System Can Track.	Current system can track total 1100 aircraft.	ERAM will track total of 1900 aircraft (greater than a 70% improvement over the baseline).	Testing to confirm the ability to track 1900 aircraft. Anticipate this to be completed by end of FY07.
2007	Reduced Congestion	Mission and Business Results	Transportation	Air Transportation	External Data Sharing	HOST has no automated flight planning beyond center boundary.	ERAM Flight Data Processing capabilities enable aircraft flight planning region to extend 50 nm beyond ARTCC airspace boundary. ERAM provides 64 Radars for greater radar coverage/expanded ATC services.	Testing to confirm the ability to extend 50nm coverage beyond ARTCC airspace. Anticipate this to be completed by end of FY07.
2007	Reduced Congestion	Processes and Activities	Financial (Processes and Activities)	Costs	Reduced maintenance effort (Mean time to failure, number and length of service calls) of the backup system for HOST.	Previous 12 month maintenance effort (Mean time to failure, number and length of service calls) as recorded in the Maintenance Management System (MMS) for the DARC system operation at all EBUS sites.	Fielding of the EBUS system as replacement for DARC system will reduce the maintenance effort (by at least 10%) (Mean time to failure, length of service calls) per EBUS site fielded.	Completed. EBUS is deployed and operational at all 20 ARTCCs and goal achieved in FY06. EBUS Mean-Time Between Corrective Maintenance Action (MTBCMA) data for FY07 will be available at the end of 1st Qtr FY08.
2007	Reduced Congestion	Technology	Efficiency	Improvement	Number of maintenance actions required by the HOST backup system.	DARC maintenance action baseline will be determined by analysis of the Maintenance Management System (MMS) by period (FY and month) and cause code for all EBUS sites.	EBUS will cut maintenance actions by 5%.	Completed. Goal achieved in FY06. Measurement data collected in FY 07 will be available at the end of 1st Qtr FY08 to validate reduction of maintenance actions by 5%.
2007	Reduced Congestion	Technology	Efficiency	Improvement	Software Lines of Code (SLOC)	HOST has 2.9 Million Software Lines of Code (SLOC) to be maintained.	ERAM will have 1.3 Million software lines of developed software (50% reduction over the baseline) to be maintained.	Completed. System software development complete and Factory Acceptance Testing started in June 2007. System entered Factory test with approximately 1.2M SLOC of developed code.
2007	Reduced Congestion	Technology	Reliability and Availability	Availability	Increase the availability of the backup system to support planned and unplanned outages of the	DARC system availability is 0.995 at 20 sites. Baseline value will be determined from analysis of the	EBUS (backup system) availability is 0.9998 at all sites.	EBUS system availability for unscheduled full interruptions in FY 06 greater than goal. FY 07 data to verify

Performance Information Table								
Fiscal Year	**Strategic Goal(s) Supported**	**Measurement Area**	**Measurement Category**	**Measurement Grouping**	**Measurement Indicator**	**Baseline**	**Target**	**Actual Results**
					HOST system.	Operations Network (OPSNET).		results and will be available at the end of 1st Qtr FY08.
2008	Reduced Congestion	Customer Results	Timeliness and Responsiveness	Delivery Time	Time required to access NOTAMs.	Current NOTAMs can take up to 15 minutes to be available from the time requested to the time delivered.	90% of data product requests satisfied within 5 seconds and Data will be available for requests 7.5 minutes from the time it enters the center.	The 5 second requirement was validated in FY 06. The 7.5 minute availability was validated in FY07. Will revalidate the 7.5 minute availability in FY08.
2008	Reduced Congestion	Mission and Business Results	Transportation	Air Transportation	Availability of critical flight data processing	Service availability for the critical flight data processing is 0.999.	Projected flight data processing service availability for ERAM is 0.99998.	System testing to be completed in FY 08 will validate compliance with the target.
2008	Reduced Congestion	Mission and Business Results	Transportation	Air Transportation	Number of radars.	HOST has 24 radar feeds.	ERAM utilizes 64 ground radar sensors for increased radar coverage (accuracy) and better aircraft position correlation that will allow the application of reduced aircraft separation minima and increase system capacity	Capability to accommodate up to 64 radar inputs will be verified at WJHTC Government Acceptance in FY08.
2008	Reduced Congestion	Mission and Business Results	Transportation	Air Transportation	Availability of Air Traffic Automation System to Support En Route Operations.	Current system has no fully functional backup.	ERAM provides redundant systems with full functionality (100% improvement over the baseline) to reduce any possibility of loss of service due to system outages.	Measurement data in FY 08 will verify availability of a fully functional backup capability prior to WJHTC Government Acceptance.
2008	Reduced Congestion	Processes and Activities	Financial (Processes and Activities)	Savings and Cost Avoidance	Cost of Providing NOTAMs	ARTCC information processing costs for FY 07 (reproduction) costs at 20 ARTCCs and controller staff time used to maintain the data.	In FY 08, ERIDS will achieve cost savings (reproduction costs + avoided staff time hours) of at least $14.6M.	ERIDS to be operational at all ARTCCs by the end of FY08. Information processing costs using ERIDS FY 07 data will be evaluated in FY 08 to validate reduce staff time and reproduction cost allocated to this function.
2008	Reduced Congestion	Technology	Effectiveness	IT Contribution to Process, Customer, or Mission	Number of Training Scenarios (Conducted)	Current Host training system can run only one instantiation (area) of the NAS system at a time.	ERAM training system can run 12 instantiations (areas) of simulation to support more robust test and training.	Measurement data from WJHTC Government Acceptance testing in FY 08 will verify an improved ERAM test and training capability with formal validation to occur in FY 10.
2008	Reduced Congestion	Technology	Efficiency	Improvement	Number of corrective maintenance actions by the HOST backup system (DARC).	DARC maintenance action baseline will be determined by analysis of the Maintenance Management	EBUS maintain maintenance actions at 5% lower than DARC.	Measurement results reported in 2007 validated EBUS has reduced corrective maintenance actions greater

Performance Information Table								
Fiscal Year	**Strategic Goal(s) Supported**	**Measurement Area**	**Measurement Category**	**Measurement Grouping**	**Measurement Indicator**	**Baseline**	**Target**	**Actual Results**
						System (MMS) by period (FY and month) and cause code for all EBUS sites.		than 5%. FY07 data to be evaluated in FY08.
2008	Reduced Congestion	Technology	Information and Data	Data Storage	Data Storage (Capacity): Increase flight plan storage capability.	Current system can only store 2600 flight plans.	ERAM stores 7080 flight plans (100% improvement over the baseline).	Measurement data from WJHTC Government Acceptance testing in FY08 will verify flight plan capacity.
2008	Reduced Congestion	Technology	Information and Data	External Data Sharing	Flight Plan Route Conversion and Checks	Current system has limited flight plan route conversion and route checking against known restrictions within local ARTCC.	ERAM provides end to end flight plan route conversion and route checking against NAS-wide restrictions across all the ARTCCs.	Measurement data in FY 08 will verify end to end route conversion capability at WJHTC Government Acceptance.
2009	Reduced Congestion	Customer Results	Timeliness and Responsiveness	Delivery Time	Time required to access NOTAMs.	Current NOTAM information can take up to 15 minutes to be available from the time requested to the time delivered.	90% of data product requests satisfied within 5 seconds and Data will be available for requests 7.5 minutes from the time it enters the center.	User surveys and site analysis conducted in FY 09 to confirm the NOTAM response times validated in FY 08.
2009	Reduced Congestion	Mission and Business Results	Information and Technology Management	Information Systems Security	Number of Intrusion Detection/Audit Features	Existing IT Host Security intrusion detection/audit features in Certification and Authorization Package (SCAP).	Enhanced IT Host Security features in ERAM SCAP that includes intrusion detection, security audit features, and other state-of-the-art security requirements mitigating the risks identified.	Final SCAP to validate completion will not be complete until first site (Key Site) IOC.
2009	Reduced Congestion	Mission and Business Results	Transportation	Air Transportation	Number of radars.	HOST has 24 radar feeds.	ERAM utilizes 64 ground radar sensors for increased radar coverage (accuracy) and better aircraft position correlation that will allow the application of reduced aircraft separation minima and increase system capacity	Capability verified in FY 08 to be confirmed at Key Site (defined as Initial Operating Capability) by the end of FY 09.
2009	Reduced Congestion	Processes and Activities	Security and Privacy	Security	Intrinsic Levels of Security to protect critical ATC radar (surveillance and flight data processing) assets supporting the NAS that ensure safe, expeditious movement of En Route aircraft.	Current Host Computer System (HCS) security architecture	ERAM provides robust technology (and security architecture) with multiple levels of security mechanisms to introduce real and effective information security to the critical air traffic control system.	Capability available (defined as Initial Operating Capability) at Key Site by the end of FY 09.
2009	Reduced Congestion	Technology	Effectiveness	IT Contribution to Process, Customer, or Mission	Number of Training Scenarios (Conducted).	Current Host training system can run only one instantiation (area) of the NAS system at a time.	ERAM training system can run 12 instantiations (areas) of simulation to support more robust test and training.	Capability verified at Key Site Government Acceptance (APB Date of 1/2009).

Performance Information Table

Fiscal Year	Strategic Goal(s) Supported	Measurement Area	Measurement Category	Measurement Grouping	Measurement Indicator	Baseline	Target	Actual Results
2009	Reduced Congestion	Technology	Efficiency	Improvement	Number of corrective maintenance actions by the HOST backup system (DARC).	DARC maintenance action baseline will be determined by analysis of the Maintenance Management System (MMS) by period (FY and month) and cause code for all EBUS sites.	EBUS maintain maintenance actions at 5% lower than DARC.	Measurement results reported in 2007 validated EBUS has reduced corrective maintenance actions greater than 5%. FY08 data to be evaluated in FY09.
2010	Reduced Congestion	Customer Results	Timeliness and Responsiveness	Delivery Time	Time required to access NOTAMs.	Current NOTAM information can take up to 15 minutes to be available from the time requested to the time delivered.	90% of data product requests satisfied within 5 seconds and Data will be available for requests 7.5 minutes from the time it enters the center.	Continue monitoring user surveys and site analysis conducted in FY 10 to verify the NOTAM response times validated in FY 09.
2010	Reduced Congestion	Mission and Business Results	Transportation	Air Transportation	Availability	Service availability for HOST is 0.999.	ERAM availability will be a minimum of 10% greater improvement as compared to HOST.	FY09 data will be evaluated in FY10.
2010	Reduced Congestion	Mission and Business Results	Transportation	Air Transportation	Number of Radars	HOST has 24 radar feeds.	ERAM utilizes 64 ground radar sensors for increased radar coverage (accuracy) and better aircraft position correlation that will allow the application of reduced aircraft separation minima and increase system capacity	Capability available (defined as Initial Operating Capability) at 16 ARTCCs by the end of FY 10.
2010	Reduced Congestion	Processes and Activities	Security and Privacy	Security	Intrinsic Levels of Security to protect critical ATC radar (surveillance and flight data processing) assets supporting the NAS that ensure safe, expeditious movement of En Route aircraft.	Current Host Computer System (HCS) security architecture	ERAM provides robust technology (and security architecture) with multiple levels of security mechanisms to introduce real and effective information security to the critical air traffic control system.	Capability available (defined as Initial Operating Capability) at 16 ARTCCs by the end of FY 10.
2010	Reduced Congestion	Technology	Effectiveness	IT Contribution to Process, Customer, or Mission	Number of Training Scenarios (Conducted)	Current Host training system can run only one instantiation (area) of the NAS system at a time.	ERAM training system can run 12 instantiations (areas) of simulation to support more robust test and training.	Capability available (defined as Initial Operating Capability) at 16 ARTCCs by the end of FY 10.
2010	Reduced Congestion	Technology	Efficiency	Improvement	Number of corrective maintenance actions by the HOST backup system (DARC).	DARC maintenance action baseline will be determined by analysis of the Maintenance Management System (MMS) by period (FY and month) and cause code for all EBUS sites.	EBUS maintain maintenance actions at 5% lower than DARC.	Measurement results reported in 2007 validated EBUS has reduced corrective maintenance actions greater than 5%. FY09 data to be evaluated in FY10.
2011	Reduced Congestion	Customer Results	Timeliness and Responsiveness	Delivery Time	Time required to access NOTAMs.	Current NOTAM information can take up to 15	90% of data product requests satisfied within 5	Continue monitoring user surveys and site

Performance Information Table								
Fiscal Year	**Strategic Goal(s) Supported**	**Measurement Area**	**Measurement Category**	**Measurement Grouping**	**Measurement Indicator**	**Baseline**	**Target**	**Actual Results**
					minutes to be available from the time requested to the time delivered.	seconds and Data will be available for requests 7.5 minutes from the time it enters the center.	analysis conducted in FY 11 to verify the NOTAM response times validated in FY 10.
2011	Reduced Congestion	Mission and Business Results	Transportation	Air Transportation	Availability	Service availability for HOST is 0.999.	ERAM availability will be a minimum of 10% improvement as compared to HOST.	FY10 data will be evaluated in FY11.
2011	Reduced Congestion	Mission and Business Results	Transportation	Air Transportation	Number of radars	HOST has 24 radar feeds.	ERAM utilizes 64 ground radar sensors for increased radar coverage (accuracy) and better aircraft position correlation that will allow the application of reduced aircraft separation minima and increase system capacity	Capability fully available (defined as Operational Readiness Demonstration) at all 20 ARTCCs by the end of FY 11.
2011	Reduced Congestion	Processes and Activities	Security and Privacy	Security	Intrinsic Levels of Security to protect critical ATC radar (surveillance and flight data processing) assets supporting the NAS that ensure safe, expeditious movement of En Route aircraft.	Current Host Computer System (HCS) security architecture	ERAM provides robust technology (and security architecture) with multiple levels of security mechanisms to introduce real and effective information security to the critical air traffic control system.	Capability fully available (defined as Operational Readiness Demonstration) at all 20 ARTCCs by the end of FY 11.
2011	Reduced Congestion	Technology	Effectiveness	IT Contribution to Process, Customer, or Mission	Number of Training Scenarios (Conducted)	Current Host training system can run only one instantiation (area) of the NAS system at a time.	ERAM training system can run 12 instantiations (areas) of simulation to support more robust test and training.	Capability fully available (defined as Operational Readiness Demonstration) at all 20 ARTCCs by the end of FY 11.
2011	Reduced Congestion	Technology	Efficiency	Improvement	Number of corrective maintenance actions by the HOST backup system (DARC).	DARC maintenance action baseline will be determined by analysis of the Maintenance Management System (MMS) by period (FY and month) and cause code for all EBUS sites.	EBUS maintain maintenance actions at 5% lower than DARC.	Measurement results reported in 2007 validated EBUS has reduced corrective maintenance actions greater than 5%. FY10 data to be evaluated in FY11. Last site ORD is December 2010.
2012	Reduced Congestion	Customer Results	Customer Benefit	Customer Satisfaction	Flight Delays	The average annual flight delays attributable to HOST, DSR, DARC/EBUS and URET systems for the period FY00-FY08.	10% fewer flight delays attributable to ERAM.	Actual results for those systems operational in FY11 will be evaluated in FY12.
2012	Reduced Congestion	Mission and Business Results	Transportation	Air Transportation	Availability	Service availability for HOST is 0.999.	ERAM availability will be a minimum of 10% improvement as compared to HOST.	FY11 data to be evaluated in FY12.

Performance Information Table								
Fiscal Year	Strategic Goal(s) Supported	Measurement Area	Measurement Category	Measurement Grouping	Measurement Indicator	Baseline	Target	Actual Results
2012	Reduced Congestion	Processes and Activities	Cycle Time and Resource Time	Cycle Time	Number of days.	Each national software release requires each site to develope unique adaptation for that site before it can go operational on that build.	Common national adaptation accompanies each software release which requires minor modifiction for each site resulting in a 10% reduction in the cycletime to go operational.	Benchmark data to be gathered in FY08. FY11 data to be evaluated in FY12.
2012	Reduced Congestion	Technology	Efficiency	Response Time	Time to deliver new software modules to a site.	Media mailed to sites and requires 2 to 3 days for delivery and installation.	Electronically transfer new software modules direct to Sites system making it available in less than 8 hours (greater than a 50% imrpovement over the baseline).	FY11 data to be evaluated in FY12.

Section E: Security and Privacy (IT Capital Assets only)

In order to successfully address this area of the business case, each question below must be answered at the system/application level, not at a program or agency level. Systems supporting this investment on the planning and operational systems security tables should match the systems on the privacy table below. Systems on the Operational Security Table must be included on your agency FISMA system inventory and should be easily referenced in the inventory (i.e., should use the same name or identifier).

For existing Mixed-Life Cycle investments where enhancement, development, and/or modernization is planned, include the investment in both the "Systems in Planning" table (Table 3) and the "Operational Systems" table (Table 4). Systems which are already operational, but have enhancement, development, and/or modernization activity, should be included in both Table 3 and Table 4. Table 3 should reflect the planned date for the system changes to be complete and operational, and the planned date for the associated C&A update. Table 4 should reflect the current status of the requirements listed. In this context, information contained within Table 3 should characterize what updates to testing and documentation will occur before implementing the enhancements; and Table 4 should characterize the current state of the materials associated with the existing system.

All systems listed in the two security tables should be identified in the privacy table. The list of systems in the "Name of System" column of the privacy table (Table 8) should match the systems listed in columns titled "Name of System" in the security tables (Tables 3 and 4). For the Privacy table, it is possible that there may not be a one-to-one ratio between the list of systems and the related privacy documents. For example, one PIA could cover multiple systems. If this is the case, a working link to the PIA may be listed in column (d) of the privacy table more than once (for each system covered by the PIA).

The questions asking whether there is a PIA which covers the system and whether a SORN is required for the system are discrete from the narrative fields. The narrative column provides an opportunity for free text explanation why a working link is not provided. For example, a SORN may be required for the system, but the system is not yet operational. In this circumstance, answer "yes" for column (e) and in the narrative in column (f), explain that because the system is not operational the SORN is not yet required to be published.

Please respond to the questions below and verify the system owner took the following actions:

1. Have the IT security costs for the system(s) been identified and integrated into the overall costs of the investment: Yes

    a. If "yes," provide the "Percentage IT Security" for the budget year: 2.62

2. Is identifying and assessing security and privacy risks a part of the overall risk management effort for each system supporting or part of this investment.   Yes

3. Systems in Planning and Undergoing Enhancement(s), Development, and/or Modernization - Security Table(s):			
Name of System	Agency/ or Contractor Operated System?	Planned Operational Date	Date of Planned C&A update (for existing mixed life cycle systems) or Planned Completion Date (for new systems)
Redacted			
4. Operational Systems - Security Table:			

Name of System	Agency/ or Contractor Operated System?	NIST FIPS 199 Risk Impact level (High, Moderate, Low)	Has C&A been Completed, using NIST 800-37? (Y/N)	Date Completed: C&A	What standards were used for the Security Controls tests? (FIPS 200/NIST 800-53, Other, N/A)	Date Complete(d): Security Control Testing	Date the contingency plan tested
Redacted							

5. Have any weaknesses, not yet remediated, related to any of the systems part of or supporting this investment been identified by the agency or IG?   Yes

    a. If "yes," have those weaknesses been incorporated into the agency's plan of action and milestone process?   Yes

6. Indicate whether an increase in IT security funding is requested to remediate IT security weaknesses?   Redacted

    a. If "yes," specify the amount, provide a general description of the weakness, and explain how the funding request will remediate the weakness.

Redacted

7. How are contractor security procedures monitored, verified, and validated by the agency for the contractor systems above?

Redacted

8. Planning & Operational Systems - Privacy Table:					
(a) Name of System	(b) Is this a new system? (Y/N)	(c) Is there at least one Privacy Impact Assessment (PIA) which covers this system? (Y/N)	(d) Internet Link or Explanation	(e) Is a System of Records Notice (SORN) required for this system? (Y/N)	(f) Internet Link or Explanation
FAAXX504: En Route Automation Modernization (ERAM), Useful Segment #1, Enhanced Back-up Surveillance (EBUS) application	No	No	No, because a PIA is not required to be completed at this time.	No	No, because the system is not a Privacy Act system of records.
FAAXX504: En Route Automation Modernization (ERAM), Useful Segment #3	Yes	No	No, because a PIA is not required to be completed at this time.	No	No, because the system is not a Privacy Act system of records.
FAAXX504: En Route Automation Modernization (ERAM), Useful Segment #7, En Route Information Display System (ERIDS) application	No	No	No, because a PIA is not required to be completed at this time.	No	No, because the system is not a Privacy Act system of records.
Details for Text Options: Column (d): If yes to (c), provide the link(s) to the publicly posted PIA(s) with which this system is associated. If no to (c), provide an explanation why the PIA has not been publicly posted or why the PIA has not been conducted. Column (f): If yes to (e), provide the link(s) to where the current and up to date SORN(s) is published in the federal register. If no to (e), provide an explanation why the SORN has not been published or why there isn't a current and up to date SORN. Note: Working links must be provided to specific documents not general privacy websites. Non-working links will be considered as a blank field.					

Section F: Enterprise Architecture (EA) (IT Capital Assets only)

In order to successfully address this area of the capital asset plan and business case, the investment must be included in the agency's EA and Capital Planning and Investment Control (CPIC) process and mapped to and supporting the FEA. The business case must demonstrate the relationship between the investment and the business, performance, data, services, application, and technology layers of the agency's EA.

1. Is this investment included in your agency's target enterprise architecture?   Yes

    a. If "no," please explain why?

2. Is this investment included in the agency's EA Transition Strategy?   Yes

    a. If "yes," provide the investment name as identified in   En Route Automation Modernization (ERAM)

the Transition Strategy provided in the agency's most recent
annual EA Assessment.

    b. If "no," please explain why?

3. Is this investment identified in a completed (contains a   Yes
target architecture) and approved segment architecture?

    a. If "yes," provide the name of the segment architecture as   Air Traffic
provided in the agency's most recent annual EA Assessment.

4. Service Component Reference Model (SRM) Table:
Identify the service components funded by this major IT investment (e.g., knowledge management, content management, customer relationship management, etc.). Provide this information in the format of the following table. For detailed guidance regarding components, please refer to http://www.egov.gov.

Agency Component Name	Agency Component Description	FEA SRM Service Domain	FEA SRM Service Type	FEA SRM Component (a)	Service Component Reused Name (b)	Service Component Reused UPI (b)	Internal or External Reuse? (c)	BY Funding Percentage (d)
Airborne (NAS: TM Synchronization)	Airborne synchronization or spacing and sequencing of air traffic safely maximize the efficiency and capacity of the NAS throughout the cruise, arrival, and departure phases of flight. Traffic synchronization is provided to aircraft during cruise, through metering at fixes/waypoints, and modifying traffic flow patterns to meet operational objectives and accommodate user preferences. (NAS: TM Synchronization)	Business Analytical Services	Knowledge Discovery	Simulation			No Reuse	15
Flight Plan Support (NAS: Flight Planning)	Flight plan support provides NAS users essential weather and aeronautical information. Flight planning requires such information as expected route, altitude, time of flight, available navigation systems, available routes, special use airspace (SUA) restrictions, daily demand conditions, and anticipated flight conditions, including weather and sky conditions (e.g., volcanic ash, smoke, or birds). (NAS: Flight Planning)	Business Management Services	Management of Processes	Configuration Management			No Reuse	5
Flight Plan Support (NAS:	Flight plan support provides	Process Automation	Routing and Scheduling	Inbound Correspondence	Conflict Resolution	021-12-01-11-01-1200-00	Internal	30

4. Service Component Reference Model (SRM) Table:
Identify the service components funded by this major IT investment (e.g., knowledge management, content management, customer relationship management, etc.). Provide this information in the format of the following table. For detailed guidance regarding components, please refer to http://www.egov.gov.

Agency Component Name	Agency Component Description	FEA SRM Service Domain	FEA SRM Service Type	FEA SRM Component (a)	Service Component Reused Name (b)	Service Component Reused UPI (b)	Internal or External Reuse? (c)	BY Funding Percentage (d)
Flight Planning)	NAS users essential weather and aeronautical information. Flight planning requires such information as expected route, altitude, time of flight, available navigation systems, available routes, special use airspace (SUA) restrictions, daily demand conditions, and anticipated flight conditions, including weather and sky conditions (e.g., volcanic ash, smoke, or birds). (NAS: Flight Planning)	Services		Management				
Airborne (NAS: TM Synchronization)	Airborne synchronization or spacing and sequencing of air traffic safely maximize the efficiency and capacity of the NAS throughout the cruise, arrival, and departure phases of flight. Traffic synchronization is provided to aircraft during cruise, through metering at fixes/waypoints, and modifying traffic flow patterns to meet operational objectives and accommodate user preferences. (NAS: TM Synchronization)	Process Automation Services	Routing and Scheduling	Outbound Correspondence Management	Conflict Resolution	021-12-01-11-01-1200-00	Internal	15
Airborne (NAS: TM Synchronization)	Airborne synchronization or spacing and sequencing of air traffic safely maximize the efficiency and capacity of the NAS throughout the cruise, arrival, and departure phases of flight. Traffic synchronization is provided to aircraft during cruise, through metering at fixes/waypoints, and modifying traffic flow	Process Automation Services	Tracking and Workflow	Process Tracking	Process Tracking	021-12-01-11-01-1020-00	Internal	30

4. Service Component Reference Model (SRM) Table:
Identify the service components funded by this major IT investment (e.g., knowledge management, content management, customer relationship management, etc.). Provide this information in the format of the following table. For detailed guidance regarding components, please refer to http://www.egov.gov.

Agency Component Name	Agency Component Description	FEA SRM Service Domain	FEA SRM Service Type	FEA SRM Component (a)	Service Component Reused Name (b)	Service Component Reused UPI (b)	Internal or External Reuse? (c)	BY Funding Percentage (d)
	patterns to meet operational objectives and accommodate user preferences. (NAS: TM Synchronization)							
Flight Plan Support (NAS: Flight Planning)	Flight plan support provides NAS users essential weather and aeronautical information. Flight planning requires such information as expected route, altitude, time of flight, available navigation systems, available routes, special use airspace (SUA) restrictions, daily demand conditions, and anticipated flight conditions, including weather and sky conditions (e.g., volcanic ash, smoke, or birds). (NAS: Flight Planning)	Support Services	Security Management	Access Control			No Reuse	5

a. Use existing SRM Components or identify as "NEW". A "NEW" component is one not already identified as a service component in the FEA SRM.

b. A reused component is one being funded by another investment, but being used by this investment. Rather than answer yes or no, identify the reused service component funded by the other investment and identify the other investment using the Unique Project Identifier (UPI) code from the OMB Ex 300 or Ex 53 submission.

c. 'Internal' reuse is within an agency. For example, one agency within a department is reusing a service component provided by another agency within the same department. 'External' reuse is one agency within a department reusing a service component provided by another agency in another department. A good example of this is an E-Gov initiative service being reused by multiple organizations across the federal government.

d. Please provide the percentage of the BY requested funding amount used for each service component listed in the table. If external, provide the percentage of the BY requested funding amount transferred to another agency to pay for the service. The percentages in the column can, but are not required to, add up to 100%.

5. Technical Reference Model (TRM) Table:
To demonstrate how this major IT investment aligns with the FEA Technical Reference Model (TRM), please list the Service Areas, Categories, Standards, and Service Specifications supporting this IT investment.

FEA SRM Component (a)	FEA TRM Service Area	FEA TRM Service Category	FEA TRM Service Standard	Service Specification (b) (i.e., vendor and product name)
Access Control	Component Framework	Security	Certificates / Digital Signatures	Redacted
Simulation	Service Interface and Integration	Integration	Middleware	Redacted
Inbound Correspondence Management	Service Platform and Infrastructure	Database / Storage	Database	Redacted
Process Tracking	Service Platform and Infrastructure	Hardware / Infrastructure	Local Area Network (LAN)	Redacted
Outbound Correspondence Management	Service Platform and Infrastructure	Hardware / Infrastructure	Wide Area Network (WAN)	Redacted
Configuration Management	Service Platform and Infrastructure	Software Engineering	Software Configuration Management	Redacted

a. Service Components identified in the previous question should be entered in this column. Please enter multiple rows for FEA SRM Components supported by multiple TRM Service Specifications

b. In the Service Specification field, agencies should provide information on the specified technical standard or vendor product mapped to the FEA TRM Service Standard, including model or version numbers, as appropriate.

6. Will the application leverage existing components and/or applications across the Government (i.e., FirstGov, Pay.Gov, etc)?　　　No

a. If "yes," please describe.

Exhibit 300: Part II: Planning, Acquisition and Performance Information

Section A: Alternatives Analysis (All Capital Assets)

Part II should be completed only for investments identified as "Planning" or "Full Acquisition," or "Mixed Life-Cycle" investments in response to Question 6 in Part I, Section A above.

In selecting the best capital asset, you should identify and consider at least three viable alternatives, in addition to the current baseline, i.e., the status quo. Use OMB Circular A-94 for all investments and the Clinger Cohen Act of 1996 for IT investments to determine the criteria you should use in your Benefit/Cost Analysis.

1. Did you conduct an alternatives analysis for this project?   Yes

     a. If "yes," provide the date the analysis was completed?   6/11/2003

     b. If "no," what is the anticipated date this analysis will be completed?

     c. If no analysis is planned, please briefly explain why:

2. Alternative Analysis Results: * Costs in millions
Use the results of your alternatives analysis to complete the following table:

Alternative Analyzed	Description of Alternative	Risk Adjusted Lifecycle Costs estimate	Risk Adjusted Lifecycle Benefits estimate
Redacted			

3. Which alternative was selected by the Agency's Executive/Investment Committee and why was it chosen?

Redacted

4. What specific qualitative benefits will be realized?

Redacted

5. Will the selected alternative replace a legacy system in-part or in-whole?   Yes

     a. If "yes," are the migration costs associated with the migration to the selected alternative included in this investment, the legacy investment, or in a separate migration investment.   This Investment

     b. If "yes," please provide the following information:

List of Legacy Investment or Systems		
Name of the Legacy Investment of Systems	UPI if available	Date of the System Retirement
Direct Access Radar Channel		5/31/2007
Host Computer System/Host Computer System Replacement	021-12-01-11-01-1040-00	6/30/2011

Section B: Risk Management (All Capital Assets)

You should have performed a risk assessment during the early planning and initial concept phase of this investment's life-cycle, developed a risk-adjusted life-cycle cost estimate and a plan to eliminate, mitigate or manage risk, and be actively managing risk throughout the investment's life-cycle.

1. Does the investment have a Risk Management Plan?   Yes

     a. If "yes," what is the date of the plan?   8/13/2007

     b. Has the Risk Management Plan been significantly changed since last year's submission to OMB?   Yes

c. If "yes," describe any significant changes:

The Risk Management Plan (dated 1/5/2007 with the risk database updated on 8/13/2007) has not changed significantly since last year's submission to OMB. ERAM risk management continues to evolve, streamlining the role of Risk Management in the execution of responses to key ERAM risks. A Risk and Opportunity Management Planning (R&OMP) Board instills formal structure into monthly ERAM risk management meetings. Discreet processes facilitate a structured methodology to define risks; analyze

risks to establish likelihood and consequences; develop risk mitigation strategies; and detail mitigation and response plans that focus on reducing and/or eliminating risk exposure levels/risks before they impact cost/schedule/technical performance. These formally developed processes define step-by-step activities to give stakeholders a standard methodology to identify the ERAM project risks. The basis of these processes aligns well with the FAA National Air Space System Engineering Manual that provides a quantifiable mechanism to analyze these risks. Once risks are defined, they are presented to the R&OMP Board for review and acceptance into the ERAM risk inventory. This process requires consensus from all R&OMP Board members. The R&OMP Board conducts formal monthly meetings and is composed of the ERAM program manager, team managers and stakeholders. In addition to reviewing newly submitted risks, the R&OMP Board is responsible for reviewing ongoing risk mitigation progress. Standardization of agenda items allows these meetings to remain within scope, streamlined, and focused. As ERAM risks are identified and managed, the metrics are reported to upper management stakeholders on a regular basis. Standardized metrics are uniformly reported across all reports. These reports show the overall ERAM risk inventory, the distribution of these risks across the program functional areas, exposure levels of these risks, and risks status. "Round Table Sessions" are specifically conducted to bring together the ERAM managers and other stakeholders in reviewing key program milestones and associated activities whose success would lead to program success. These reviews focus on and identify potential risks that could impact the overall ERAM program execution. Impacts are considered for cost, schedule, and technical performance. The potential risks are further evaluated and accepted (or rejected) in the monthly risk management meetings.

2. If there currently is no plan, will a plan be developed?

    a. If "yes," what is the planned completion date?

    b. If "no," what is the strategy for managing the risks?

3. Briefly describe how investment risks are reflected in the life cycle cost estimate and investment schedule:

In accordance with the Acquisition Management System (AMS) process, the ERAM investment analysis included a risk assessment to identify the key cost, schedule and technical risks to the ERAM program. The lifecycle cost for the ERAM program were risk-adjusted as part of the (1) work breakdown structure development, (2) addition of risk dollars in selected areas and (3) the addition of a schedule risk adjustment for the full implementation of ERAM. Various tools were used to support the risk analysis such as Crystal Ball, a risk analysis software package (that provides a dynamic environment for evaluating multiple strategies) using a Monte Carlo simulation (a technique for simulating real-world situations involving elements of uncertainty) was used to obtain high confidence level estimate for the program. As a result of the risk analysis, a total of $241.6M was incorporated in the ERAM JRC-2b approved Acquisition Program Baseline (APB) cost baseline to cover technical ($66.9M) and schedule ($174.7M) risks The program risk dollars have been allocated to and integrated into the program segment cost data provided in Part II C to support the ERAM Prime Contractor activities where potential risks have been identified. The support contract efforts identified in Program Segment 8 (Part II C) make up approximately 17 percent of the ERAM program cost identified in the JRC-2b APB. The risks associated with support contract efforts are deemed insignificant so this segment does not contain any risk allocation. After JRC-2b approval of the program, the ERAM risk assessment process has continued and matured into a more detailed set of risks that are regularly monitored and assessed via the ERAM risk management program. Mitigation plans are developed and reviewed with the ERAM program manager on a monthly basis and risk resources are allocated as needed. As of July 23, 13 risks are categorized as medium and 5 are categorized as low covering near-term and long term activities. All identified risks have mitigation plans. An example of a long term medium risk covers the management of ERAM COTS hardware and software End-Of-Life (EOL) issues (i.e., planning for and obtaining the replacement of EOL hardware and software). Risk dollars included in the ERAM APB cost baseline are currently sufficient to address the potential cost impacts of the risks identified by the ERAM program. PART weakness identified in Section I.8.A is not specific to ERAM.

Section C: Cost and Schedule Performance (All Capital Assets)

EVM is required only on DME portions of investments. For mixed lifecycle investments, O&M milestones should still be included in the table (Comparison of Initial Baseline and Current Approved Baseline). This table should accurately reflect the milestones in the initial baseline, as well as milestones in the current baseline.

1. Does the earned value management system meet the   Yes
criteria in ANSI/EIA Standard-748?

2. Is the CV% or SV% greater than +/- 10%? (CV%= CV/EV x   No
100; SV%= SV/PV x 100)

    a. If "yes," was it the CV or SV or both?

    b. If "yes," explain the causes of the variance:

    c. If "yes," describe the corrective actions:

3. Has the investment re-baselined during the past fiscal year?   No

a. If "yes," when was it approved by the agency head?

4. Comparison of Initial Baseline and Current Approved Baseline

Complete the following table to compare actual performance against the current performance baseline and to the initial performance baseline. In the Current Baseline section, for all milestones listed, you should provide both the baseline and actual completion dates (e.g., "03/23/2003"/ "04/28/2004") and the baseline and actual total costs (in $ Millions). In the event that a milestone is not found in both the initial and current baseline, leave the associated cells blank. Note that the 'Description of Milestone' and 'Percent Complete' fields are required. Indicate '0' for any milestone no longer active.

Milestone Number	Description of Milestone	Initial Baseline		Current Baseline				Current Baseline Variance		Percent Complete
		Planned Completion Date (mm/dd/yyyy)	Total Cost ($M) Estimated	Completion Date (mm/dd/yyyy)		Total Cost ($M)		Schedule (# days)	Cost ($M)	
				Planned	Actual	Planned	Actual			
Redacted										