Exhibit 300: Capital Asset Plan and Business Case Summary

Part I: Summary Information And Justification (All Capital Assets)

Section A: Overview (All Capital Assets)

1. Date of Submission:	9/10/2007
2. Agency:	Department of Energy
3. Bureau:	Energy Programs
4. Name of this Capital Asset:	ANL Leadership Computing Facility (ALCF)
5. Unique Project (Investment) Identifier: (For IT investment only, see section 53. For all other, use agency ID system.)	019-20-01-21-01-1033-00
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?	FY2006

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:

ALCF, as part of the Advanced Scientific Computing Research (ASCR) INCITE Program, provides supercomputing capability to accomplish SC strategic goal 6 and DOE strategic goal 3.1. It furthers the President's Competitive and American Energy Initiatives by: advancing fundamental scientific discovery to improve future quality of life, enabling potential high-payoff activities that help achieve national goals like energy independence, and improving the ability to understand and respond to climate change and other global environmental issues/natural disasters through better observation, data, analysis, models, and basic and social science research. In DOE's SG 3.1, scientific breakthroughs are enabled by advancing the leadership class computational capabilities required for frontiers of scientific discovery, e.g., fuel cells, fusion, biotechnology, nanotechnology, climate prediction, pollution remediation.

DOE-SC's INCITE program received user requests for 198 million CPU hours in FY2007, but only 95 million hours could be allocated. ALCF addresses the gap by providing INCITE researchers with additional computational capability to facilitate more concurrent leadership projects, reducing computational time, and increasing data storage capacity. This investment covers IBM Blue Gene systems whose design and configuration compliments systems at other DOE facilities and complies with the DOE supercomputing technical architecture. Blue Gene excels in many areas essential for advances in energy systems, life sciences, environment, and basic science. In these and other areas ALCF supports missions across SC, and key collaborators like NASA and NSF. The proven outstanding price-performance of Blue Gene for large, complex computations, coupled with low power and space needs make it the best alternative. Stepwise deployment of proven designs yields low and manageable risk for the Blue Gene/P systems in 2007 and 2008. Key applications will be ready when the systems are operational, maximizing scientific return. The investment combined with the INCITE program will break new ground; researchers can attack difficult unsolved problems and make significant national contributions to reduce energy usage/costs. ALCF provides computational resources as "Services for Citizens in "Research and Development". There is no PMA eGov initiative for Leadership-class computing.

9. Did the Agency's Executive/Investment Committee approve this request?	Yes
a. If "yes," what was the date of this approval?	8/27/2007
10. Did the Project Manager review this Exhibit?	Yes
11. Contact information of Project Manager?	
Name	Gines, Frank
Phone Number	630-252-5751
Email	Frank.Gines@ch.doe.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?	Yes
If "yes," check all that apply:	Human Capital R and D Investment Criteria
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?)	Human Capital-ensure the Nation's top scientists are experts in using the latest technology to solve DOE's and the Nation's toughest issues; R&D Investment-ensures DOE makes the most productive investments by optimizing computer systems to enable scientific discovery and by measuring research progress with them.
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?	Advanced Scientific Computing Research
c. If "yes," what rating did the PART receive?	Moderately Effective
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 2
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)	No
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	3.90
Software	3.80
Services	92.30
Other	0
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?	No

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

Name	Catlett, Charles

Phone Number	630-252-2000
Title	Chief Information Officer, Argonne National Laboratory
E-mail	catlett@anl.gov
23. Are the records produced by this investment appropriately scheduled with the National Archives and Records Administration's approval?	Yes
Question 24 must be answered by all Investments:	
24. Does this investment directly support one of the GAO High Risk Areas?	No

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:	0	1.341	2.091	0.363					
Acquisition:	0	3.172	1.235	0					
Subtotal Planning & Acquisition:	0	4.513	3.326	0.363					
Operations & Maintenance:	0.594	13.617	23.286	29.817					
TOTAL:	0.594	18.130	26.612	30.180					
Government FTE Costs should not be included in the amounts provided above.									
Government FTE Costs	0	0.13	0.17	0.18					
Number of FTE represented by Costs:	0	1	1	1					

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:

The summary of spending has not changed since the FY2008 President's budget request.

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)
DE-AC02-06CH11357	Cost Reimbursement	Yes	2/3/2006	2/3/2006	9/30/2011	80.8	No	Yes	Yes	NA	Yes	Yes	Martinez, Sergio	630-252-2075 / sergio.martinez@anl.gov	Level 3	
ALCF-0	Firm Fixed Price	Yes	5/2/2007	5/2/2007	9/30/2012	18.2	No	Yes	No	NA	No	Yes	Simpson, Rory	630-252-2127 / rory.simpson@ch.doe.gov	Level 3	

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:

Contracts 1 and 2, its extension, represent the Prime Contract for the entire Laboratory. Beginning in FY07, the WBS for the DME portion of the LCF investment has been managed by an integrated project team that employs trained cost account managers and change control procedures. The SC ANL LCF Project Director will submit quarterly EVM reports along with operational analysis of the steady state investment to the assigned DOE Program Manager. ANL will deploy an ANSI/EIA-748 certifiable EVM system,for DME activities. The DOE uses a performance-based management approach to manage ALCF through an ongoing process of establishing strategic performance objectives; measuring performance; collecting, analyzing, reviewing, and reporting performance data; and using that data to drive performance improvement. Contract performance is managed in accordance with Department of Energy Order 224.1, Contractor Performance-Based Business Management Process, dated 12-8-97, which requires Departmental elements to regularly assess and evaluate contractor performance, controls, and compliance. Through adherence to DOE Order 224.1, ANL integrates contract work scope, budget, and schedule to achieve realistic, executable performance plans, compliant with EVM System Industry Standard (ANSI/EIA-748). The program is reviewed at least annually to ensure that its management, technologies, and capabilities adequately meet the requirements of its mission, as defined by its community of users and its sponsors. External peer review is a driving force in the development and implementation of the program. Reviews are conducted on both a routine and an extraordinary basis as critical program issues arise. The latest review was chaired by Dan Lehman (DOE Project Management office) in December, 2006. EVM is not implemented as the contract is not activity-based.

3. Do the contracts ensure Section 508 compliance?	Yes
a. Explain why:	ANL's DOE Prime Contract DE-AC02-06CH11357 includes CLAUSE I.97-DEAR 970.5204 requiring compliance to 1973 Rehabilitation Act, section 508 and is achieved through a requirements document. CO and PM share compliance responsibility. CO and COTR ensure technical standards in SOW. All IT acquisitions offer maximum compliance and satisfy all other functional requirements. PM has responsibility to ensure procured IT systems comply with technical standards (36 CFR 1194.21-1194.26, 1194.31, 1194.41).
4. Is there an acquisition plan which has been approved in accordance with agency requirements?	Yes
a. If "yes," what is the date?	7/3/2006
b. If "no," will an acquisition plan be developed?	Yes
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
2007	GOAL 3.1 Scientific Discovery – Achieve the major scientific discoveries that will drive U.S. competitiveness, inspire America, and revolutionize our approaches to the Nation's energy, national security, and environmental quality challenges.	Customer Results	Timeliness and Responsiveness	Response Time	Develop a monthly report tracking how long it takes to address user problem reports	Nothing exists yet	9/30/2007	Results Met: Completed in September, 2007
2007	GOAL 3.1	Mission and	General Science	Scientific and	Number of CPU	1.79M	4M	Results Met:

Performance Information Table

Fiscal Year	Strategic Goal(s) Supported	Measurement Area	Measurement Category	Measurement Grouping	Measurement Indicator	Baseline	Target	Actual Results
	Scientific Discovery – Achieve the major scientific discoveries that will drive U.S. competitiveness, inspire America, and revolutionize our approaches to the Nation's energy, national security, and environmental quality challenges.	Business Results	and Innovation	Technological Research and Innovation	hours allocated to INCITE program projects in CY2007 (in millions)			4.7M hours allocated to INCITE projects in 2007
2007	GOAL 3.1 Scientific Discovery – Achieve the major scientific discoveries that will drive U.S. competitiveness, inspire America, and revolutionize our approaches to the Nation's energy, national security, and environmental quality challenges.	Processes and Activities	Productivity and Efficiency	Productivity	Percentage of time BGL system is available for users	0%	75%	Results met: 99% availability in FY07
2007	GOAL 3.1 Scientific Discovery – Achieve the major scientific discoveries that will drive U.S. competitiveness, inspire America, and revolutionize our approaches to the Nation's energy, national security, and environmental quality challenges.	Technology	Effectiveness	User Satisfaction	Develop the Computing Facility Operational Assessment Program Plan based on best practices	Nothing exists yet	6/30/2007	Results met: Plan is compete and has been implemented
2008	GOAL 3.1 Scientific Discovery – Achieve the major scientific discoveries that will drive U.S. competitiveness, inspire America, and revolutionize our approaches to the Nation's energy, national security, and environmental quality challenges.	Customer Results	Timeliness and Responsiveness	Delivery Time				
2008	GOAL 3.1 Scientific Discovery – Achieve the major scientific discoveries that will drive U.S. competitiveness, inspire America, and revolutionize our approaches to the Nation's energy, national security, and environmental quality challenges.	Mission and Business Results	General Science and Innovation	Scientific and Technological Research and Innovation				
2008	GOAL 3.1	Processes and	Productivity and	Productivity				

Performance Information Table

Fiscal Year	Strategic Goal(s) Supported	Measurement Area	Measurement Category	Measurement Grouping	Measurement Indicator	Baseline	Target	Actual Results
	Scientific Discovery – Achieve the major scientific discoveries that will drive U.S. competitiveness, inspire America, and revolutionize our approaches to the Nation's energy, national security, and environmental quality challenges.	Activities	Efficiency					
2008	GOAL 3.1 Scientific Discovery – Achieve the major scientific discoveries that will drive U.S. competitiveness, inspire America, and revolutionize our approaches to the Nation's energy, national security, and environmental quality challenges.	Processes and Activities	Productivity and Efficiency	Productivity				
2008	GOAL 3.1 Scientific Discovery – Achieve the major scientific discoveries that will drive U.S. competitiveness, inspire America, and revolutionize our approaches to the Nation's energy, national security, and environmental quality challenges.	Technology	Information and Data	Data Storage				
2009	GOAL 3.1 Scientific Discovery – Achieve the major scientific discoveries that will drive U.S. competitiveness, inspire America, and revolutionize our approaches to the Nation's energy, national security, and environmental quality challenges.	Customer Results	Timeliness and Responsiveness	Delivery Time				
2009	GOAL 3.1 Scientific Discovery – Achieve the major scientific discoveries that will drive U.S. competitiveness, inspire America, and revolutionize our approaches to the Nation's energy, national security, and environmental quality challenges.	Mission and Business Results	General Science and Innovation	Scientific and Technological Research and Innovation				
2009	GOAL 3.1	Processes and	Productivity and	Productivity				

Performance Information Table								
Fiscal Year	**Strategic Goal(s) Supported**	**Measurement Area**	**Measurement Category**	**Measurement Grouping**	**Measurement Indicator**	**Baseline**	**Target**	**Actual Results**
	Scientific Discovery – Achieve the major scientific discoveries that will drive U.S. competitiveness, inspire America, and revolutionize our approaches to the Nation's energy, national security, and environmental quality challenges.	Activities	Efficiency					
2009	GOAL 3.1 Scientific Discovery – Achieve the major scientific discoveries that will drive U.S. competitiveness, inspire America, and revolutionize our approaches to the Nation's energy, national security, and environmental quality challenges.	Technology	Information and Data	Data Storage				
2010	GOAL 3.1 Scientific Discovery – Achieve the major scientific discoveries that will drive U.S. competitiveness, inspire America, and revolutionize our approaches to the Nation's energy, national security, and environmental quality challenges.	Customer Results	Timeliness and Responsiveness	Delivery Time				
2010	GOAL 3.1 Scientific Discovery – Achieve the major scientific discoveries that will drive U.S. competitiveness, inspire America, and revolutionize our approaches to the Nation's energy, national security, and environmental quality challenges.	Mission and Business Results	General Science and Innovation	Scientific and Technological Research and Innovation				
2010	GOAL 3.1 Scientific Discovery – Achieve the major scientific discoveries that will drive U.S. competitiveness, inspire America, and revolutionize our approaches to the Nation's energy, national security, and environmental quality challenges.	Processes and Activities	Productivity and Efficiency	Efficiency				
2010	GOAL 3.1	Technology	Information and	Data Storage				

Performance Information Table

Fiscal Year	Strategic Goal(s) Supported	Measurement Area	Measurement Category	Measurement Grouping	Measurement Indicator	Baseline	Target	Actual Results
	Scientific Discovery – Achieve the major scientific discoveries that will drive U.S. competitiveness, inspire America, and revolutionize our approaches to the Nation's energy, national security, and environmental quality challenges.		Data					
2011	GOAL 3.1 Scientific Discovery – Achieve the major scientific discoveries that will drive U.S. competitiveness, inspire America, and revolutionize our approaches to the Nation's energy, national security, and environmental quality challenges.	Customer Results	Timeliness and Responsiveness	Delivery Time				
2011	GOAL 3.1 Scientific Discovery – Achieve the major scientific discoveries that will drive U.S. competitiveness, inspire America, and revolutionize our approaches to the Nation's energy, national security, and environmental quality challenges.	Mission and Business Results	General Science and Innovation	Scientific and Technological Research and Innovation				
2011	GOAL 3.1 Scientific Discovery – Achieve the major scientific discoveries that will drive U.S. competitiveness, inspire America, and revolutionize our approaches to the Nation's energy, national security, and environmental quality challenges.	Processes and Activities	Productivity and Efficiency	Efficiency				
2011	GOAL 3.1 Scientific Discovery – Achieve the major scientific discoveries that will drive U.S. competitiveness, inspire America, and revolutionize our approaches to the Nation's energy, national security, and environmental quality challenges.	Technology	Information and Data	Data Storage				
2012	GOAL 3.1	Customer	Timeliness and	Response Time				

Performance Information Table								
Fiscal Year	**Strategic Goal(s) Supported**	**Measurement Area**	**Measurement Category**	**Measurement Grouping**	**Measurement Indicator**	**Baseline**	**Target**	**Actual Results**
	Scientific Discovery – Achieve the major scientific discoveries that will drive U.S. competitiveness, inspire America, and revolutionize our approaches to the Nation's energy, national security, and environmental quality challenges.	Results	Responsiveness					
2012	GOAL 3.1 Scientific Discovery – Achieve the major scientific discoveries that will drive U.S. competitiveness, inspire America, and revolutionize our approaches to the Nation's energy, national security, and environmental quality challenges.	Mission and Business Results	General Science and Innovation	Scientific and Technological Research and Innovation				
2012	GOAL 3.1 Scientific Discovery – Achieve the major scientific discoveries that will drive U.S. competitiveness, inspire America, and revolutionize our approaches to the Nation's energy, national security, and environmental quality challenges.	Processes and Activities	Productivity and Efficiency	Productivity				
2012	GOAL 3.1 Scientific Discovery – Achieve the major scientific discoveries that will drive U.S. competitiveness, inspire America, and revolutionize our approaches to the Nation's energy, national security, and environmental quality challenges.	Technology	Information and Data	Data Storage				

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:

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

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.

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)
ALCF-0			
ALCF-1			
ALCF-2			

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, NIST 800-26, Other, N/A)	Date Complete(d): Security Control Testing	Date the contingency plan tested
BGL in General Computing Enclave							

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?

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

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

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

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

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
ALCF-0	Yes	No	The system does not contain, process or transmit personal identifying information.	No	The system is not a privacy Act system of records
ALCF-1	Yes	No	The system does not	No	The system is not a

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
			contain, process or transmit personal identifying information.		privacy Act system of records
ALCF-2	Yes	No	The system does not contain, process or transmit personal identifying information.	No	The system is not a privacy Act system of records
BGL	No	No	The system does not contain, process or transmit personal identifying information.	No	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 the Transition Strategy provided in the agency's most recent annual EA Assessment.	This investment, Office of Science ANL Leadership Computing Facility (SC ANL LCF), is included in the EA Transition Plan, February 2007, section 2.1.4.1 Core Mission - Scientific Research
b. If "no," please explain why?	
3. Is this investment identified in a completed (contains a target architecture) and approved segment architecture?	No
a. If "yes," provide the name of the segment architecture as 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)
Computer Facility Management	Resources to perform management of computer facility	Back Office Services	Asset / Materials Management	Computers / Automation Management	Computers / Automation Management		Internal	
Data Management Services	Resources to support archiving and retrieval of large volumes of data	Back Office Services	Data Management	Data Warehouse	Data Warehouse		Internal	
High Performance Computation Services	Resources to Perform Mathematical and Statistical Calculations	Business Analytical Services	Analysis and Statistics	Mathematical			No Reuse	
Software Performance Services	Resources that support development, performance	Business Analytical Services	Knowledge Discovery	Simulation	Simulation		Internal	

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)
	analysis and optimization of scientific applications							
Data Analytics Services	Resources that support visual exploration of data and creation of images	Business Analytical Services	Visualization	Graphing / Charting			No Reuse	
User Support Services	Resources for help desk case management	Customer Services	Customer Initiated Assistance	Self-Service			No Reuse	

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)
Simulation	Component Framework	Business Logic	Platform Independent	
Computers / Automation Management	Component Framework	Data Management	Database Connectivity	
Computers / Automation Management	Component Framework	Data Management	Database Connectivity	
Computers / Automation Management	Component Framework	Data Management	Reporting and Analysis	
Self-Service	Service Access and Delivery	Access Channels	Collaboration / Communications	
Data Warehouse	Service Platform and Infrastructure	Database / Storage	Storage	
Mathematical	Service Platform and Infrastructure	Hardware / Infrastructure	Network Devices / Standards	
Mathematical	Service Platform and Infrastructure	Hardware / Infrastructure	Servers / Computers	
Mathematical	Service Platform and Infrastructure	Software Engineering	Modeling	
Graphing / Charting	Service Platform and Infrastructure	Support Platforms	Platform Independent	

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? 7/11/2007

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
0	Status Quo - no funding approved and no system acquired. The required computing capability is not available at other DOE centers, which are all fully subscribed, or by partnering with centers of other agencies, or via reuse of available equipment. Failure to fund ALCF would forestall progress on high impact science projects across the Office of Science.	0	0
1			
2			
3			

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

The government owned, contractor operated Blue Gene/P system (Alternative 1) is the most effective solution to provide the benefits measured in the performance section I.D. Based on a peer-reviewed competition, the Office of Science awarded the Leadership Class Computing facility to the partnership of ORNL, ANL and PNNL on May 12, 2004. This review established the approach of employing Cray systems (at ORNL) and IBM Blue Gene systems (at ANL) to optimally span the wide range of science requirements. This two-site approach also substantially reduces the risk to the program should one of the sites go off line for an extended period. For the project phase addressed here Option #1, Government owned, contractor operated Blue Gene systems at Argonne National Laboratory, provide the best level of lifecycle benefits for capability-limited scientific applications at the least cost. Lifecycle benefits were obtained using market rates. Costs are included through FY2012, and a separate alternatives analysis will be performed for the follow-on system, task ALCF-2, to be procured in FY2011-12.

4. What specific qualitative benefits will be realized?

The science thrusts of DOE employ a wide range of computational algorithms requiring capability computing. A key strength of the approach of this project is the ability of multiple Leadership Computing systems to each efficiently address capability-limited computations in different science areas of the DOE portfolio, together spanning the algorithmic range needed more economically than a single computer architecture. With the addition of the leadership class Blue Gene systems at ANL, DOE science fills a large gap in computer and data storage resource requirements with strong capabilities to accelerate scientific understanding in areas that include energy systems, life sciences, environmental stewardship, and fundamental science. This is an important step in achieving 2006 DOE Strategic Goal 3.1 for Scientific Breakthroughs, which requires "Advance the computational sciences and the leadership class computational capabilities required for today's frontiers of scientific discovery," as the number of leadership science projects can be nearly doubled with the selected alternative.

5. Will the selected alternative replace a legacy system in-part or in-whole? No

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.

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**

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? 10/31/2006

b. Has the Risk Management Plan been significantly changed since last year's submission to OMB? No

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

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:

The risk management plan identifies risks, characterizes uncertainties, and provides processes for decisions and tracking. Analyses employed expert opinion and historical information. Risk identification, management and retirement are performed throughout the lifecycle and tracked. The major increments (100 teraflops ALCF-0, then 500 teraflops ALCF-1) are reflected in the schedule and budget for the ALCF. ALCF will initially deploy a 100TF Blue Gene/P system in 2007-8. Early Science projects and objectives are already being planned for it. The 100TF system provides operations and user experience before deploying the 500TF system in 2008-9, managing technical and schedule risks and developing science applications ready to use the larger system. Auxiliary components like file servers and disk arrays are developed and tested in advance of computer deliveries to provide time to solve problems that may arise, and also to provide opportunity to find alternatives as needed that reduce risk of cost and/or schedule impact. Detailed factory and site acceptance tests ensure systems meet specifications and are suitable for the DOE mission. Each of the system acceptance dates includes a planned schedule contingency of 6-12 months to cover risks of late delivery of essential hardware or software components. Subsequent deployment cycles, e.g., ALCF-2, will follow the same approach.

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 criteria in ANSI/EIA Standard-748? Yes

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

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			
0	FY06 SS Blue Gene 2fL Maintenance cycle beginning	9/30/2006	$0.594	9/30/2006	9/30/2006	$0.594	$0.558	0	$0.036	100%
1	FY07 SS Complete Security Control Testing	7/31/2007	$0	7/31/2007	5/30/2007	$0	$0	62	$0	100%
2	FY07 DME Appointment/qualification of level 2 project manager	9/30/2007	$0	9/30/2007	12/5/2006	$0	$0	299	$0	100%
3	FY07 DME Planning Activities	9/30/2007	$2.434	9/30/2007	9/30/2007	$1.341	$1.236	0	$0.105	100%
4	FY07 DME costs to contract and prepare for installation of ALCF-0 (100 teraflops system)	9/30/2007	$3.1	9/30/2007	9/30/2007	$3.172	$3.378	0	$-0.206	100%
5	FY07 SS ALCF Operations Security Leases and Maintenance	9/30/2007	$4.629	9/30/2007	9/30/2007	$13.487	$1.338	0	$12.149	100%