



Business-Technology Alignment

BUSINESS CASE

BUSINESS TECHNOLOGY ALIGNMENT – PHASE II

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Business Case

Project Name: SFA Business-Technology Alignment (BTA) – Phase II

Channel: CIO

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Project Description

The SFA Business-Technology Alignment (BTA) initiative is split into two phases. Phase I defined the BTA organization and processes, updated the IT Guiding Principles and developed a Technology Infrastructure Blueprint. Phase II, the focus of this business case, will enable SFA to execute and support the BTA organization and processes with enterprise-wide participation. Phase II will provide SFA with the organization, supporting tools and operational repeatable processes for reviewing projects against SFA technology standards. It will help ensure that the technology used clearly supports and is driven by the SFA business priorities. The project will consist of the following high-level tasks:

1. Update and communicate the Technology Infrastructure Blueprint, which includes:
 - Update to include changes into the Technology Infrastructure Blueprint;
 - Publish and communicate IT Standards and Technology Release Schedule.
2. Implement the BTA processes with enterprise-wide participation, which includes:
 - Continue to build business unit buy-in and participation;
 - Implement the organization and execute the BTA processes;
 - Support the continued execution of the BTA processes.
3. Evaluate, select, and implement tool(s) to support BTA processes (e.g. to analyze use of technologies and standards across systems), which includes:
 - Identify, evaluate and select support tool(s) for implementation;
 - Configure and implement the solution.

Describe the need for change (the business problem to be addressed).

Currently, there is no repeatable process in place to help ensure that technology related decisions are driven by business needs and priorities, and that new development efforts are following SFA's technology standards. BTA processes help address the risk of implementing solutions that do not follow SFA's technology standards, do not integrate and do not support the business most effectively or efficiently. Not following the enterprise technology standards poses the risk of increasing the complexity and cost of implementing and maintaining SFA's



applications. Projects that incorporate non-standard SFA technologies may incur additional cost to test, integrate, maintain, operate and staff the solution.

Currently, SFA's technology architecture and standards reviews are performed on an ad-hoc basis without a well-documented process to follow. Lack of consistent and repeatable processes has led to an inconsistent approach to technology-related decisions. It has also resulted in an increased number of different technologies being used, which has added to complexity and cost of maintaining and operating the solutions.

By implementing the BTA organization and processes SFA will benefit in the following areas:

- Business relevancy of technology decisions;
- Technology alignment and management;
- Budgetary control;
- Communication effectiveness;
- Legislative compliance.

Business Relevancy

The BTA organization and processes provide a forum to enable discussion and understanding of the business impact of technology architecture decisions and changes, based on cross-SFA business perspectives. Direct involvement and buy-in of business leadership in technology-related decisions helps ensure that technology investments are driven by business drivers.

Technology Alignment and Management

By incorporating BTA technology reviews into the existing processes, SFA will be able to better manage its application development efforts and ensure that the technology decisions made by projects are aligned with business needs and priorities. Adherence to a standard IT Architecture (ITA) will make it easier to manage and maintain SFA's new applications once they are deployed to production. It will also help to reduce costs and simplify maintenance by limiting the number of products supported.

Budgetary Control

Implementing the BTA process will help SFA avoid unnecessary costs, by minimizing the system development and operating costs of integrating non-standard technologies. Additionally, SFA will be able to reduce research, testing, and development costs associated with integrating products, and by leveraging the integrated technology standards and tools that have been tested and incorporated for other projects.

Communication Effectiveness

Currently, third-party vendors do not have access to SFA's technology standards, and so are not well positioned to conform to these standards. Implementing BTA will help coordinate technology standards with customers and partner organizations (e.g. ELM, NCHELP) that



develop their own software. These customers and partners will have the ability to refer to SFA's strategic technology direction and vision of the future and will be better positioned to develop their systems for integration with SFA.

Legislative Compliance

BTA organization and processes help ensure compliance with the requirements of the Clinger-Cohen Act. Pursuant to the Clinger-Cohen Act, on October 25, 1996, the Office of Management and Budget (OMB) issued a memorandum to the Executive Departments and Agencies providing direction regarding investments in major information systems. Included in that guidance were two key concepts applicable to BTA. OMB directed that IT investments should:

- a. Support core/priority mission functions that need to be performed by the Federal Government.
- b. Be consistent with Federal, agency, and bureau information architectures that integrate agency work processes and information flows, and reflect the agency's technology vision;

What is the purpose of the initiative?

The purpose of this initiative is to ensure that IT investments support SFA's key business objectives and maintain business relevancy for technology related decisions.

The BTA – Phase II project will provide SFA with the following outcomes:

- Organization and repeatable processes for:
 - Making technology related decisions (e.g. introduction of new technology, changes to IT architecture);
 - Reviewing solution design and development to ensure it is following SFA standards;
 - Other technology architecture and standards reviews that have been incorporated into SFA's existing project review processes.
- Continued socialization of the processes and documents to promote stakeholder buy-in;
- Evaluation, selection and implementation of tool(s) to support the BTA organization and processes;
- Execution and on-going support for the BTA organization and processes;
- Updated Technology Infrastructure Blueprint published on the SFA Extranet.

What is the scope of the initiative, including what it is not?

Phase II of the BTA initiative will provide SFA with the following services and support in implementing BTA and helping to maintain the technical integrity of its technology and infrastructure:

- Continue to build buy-in and obtain support for the BTA organization and processes among the SFA business unit leadership;



- Finalize the Infrastructure Blueprint, and communicate IT standards and the technology release schedule to relevant stakeholders;
- Setup the Architecture Working Group (AWG), meeting schedules, and initiate regular meetings;
- Provide support to SFA's leadership in their consideration of IT investments by ensuring that required technology analyses and business impact are considered;
- Provide support for the peer-group review and assessment of project technology solution design to ensure that the proposed solution follows the IT architecture standards;
- Evaluate, select and implement tools to enable and support the BTA, and to assess the impact of changes to SFA's IT Architecture (ITA);
- Setup, populate and operate support tool(s) for the ITA and standards;
- Select and secure resources for on-going operation of the BTA tool;
- Provide continuous maintenance and update of the SFA Technology Standards and Policies Guide;
- Develop a business case for on-going support in follow-on years.

What is the start date and end date of the initiative?

It is anticipated that this task order will run from November 5, 2001 until October 31, 2002.

What other business areas/external groups are affected by the implementation of this initiative and how are they affected?

SFA's BTA process will incorporate peer-group reviews of solution design, technology architecture and standards as part of SFA's Solution Life Cycle (SLC). The BTA organization and processes provide a forum for evaluation and decision-making on technology architecture related issues from a SFA-wide perspective. It will help ensure that the technology architecture related decisions are based on clear business drivers and priorities.

The BTA organization and processes are also linked to Enterprise Configuration Management (ECM) processes currently being defined as a separate initiative. BTA is focused on the SFA-wide architecture standards and changes, while the ECM process is more focused on individual project changes.



Key users of the BTA processes will include:

- SFA business units and project staff leadership;
- SFA IT staff;
- Modernization Partner staff.

For management information purposes, SFA's CIO, senior IT managers, and Department of Education CIO may also use the IT Architecture and related documents.

What systems are impacted by the implementation of this initiative and how are they impacted?

There will be no initial changes to current systems as a result of this initiative. However, all new systems that are developed as part of future Modernization initiatives will need to adhere to the BTA processes, technology standards, and policies defined by this project.

Certain existing systems may be needed to feed data to the BTA supporting system (e.g. project management systems such as Rational to provide architecture standards and solution design data). The requirements will be determined during this phase of the work.

What business processes are impacted by the implementation of this initiative and how are they impacted?

The Investment Management and Solution Life Cycle (SLC) processes will need to be updated to incorporate the BTA peer-group review steps identified in this initiative. This will ensure that new projects are driven by clear business needs while adhering to the SFA technology standards and guidelines.

Enterprise Impact

What are the impacts on the Enterprise from the implementation of this initiative? (Please detail decisions needed from Department)

Technology related decisions based on Enterprise-wide priorities are expected to be the major impact of this initiative. No decisions are needed from Department to enable this initiative.

Accessibility

Please indicate how the initiative complies with accessibility guidelines. The Department and SFA's Accessibility Guidelines can be found at the following URL:

<http://connected.ed.gov/policies/index.cfm?navID=71C6D478-E6E0-4C0E-B9D1324CFF996047&menuItem=2&subMenuItem=1>

Please be sure to comment on this initiatives efforts to meet Section 508 compliance.

Any material published externally as part of this initiative will follow SFA's Accessibility Guidelines, and comply with Section 508 requirements, as needed.



Technologies Used

The following proposed technologies will be used to implement this project:

Name/type	Proposed use	Has the technology been used at SFA before? Where?	Does Technology fit SFA's Architecture Standard? Explain.	Does SFA have the technical expertise to implement this technology? Why?
MS Office Suite	Artifact Capture	Enterprise wide	Yes	Yes
Architecture Standards and Design Repository – product to be determined	Analysis and cross referencing of architecture components and products used across different solutions	Dependant on product chosen	Dependant on product chosen	Dependant on product chosen
Workflow Management Tool – product to be determined. This may be the same product as the Architecture Standards and Design Repository above	Manage and route workflow activities for BTA processes	Dependant on product chosen	Dependant on product chosen	Dependant on product chosen

Benefits

Provide a narrative discussion to explain why SFA is doing the initiative and what project objectives or expected outcomes can be quantified and how they can be measured. Demonstrate that the initiative supports the goals and objectives of SFA, how it supports these goals and objectives, to what extent it helps SFA achieve these goals and objectives, and when these benefits will be realized.

Phase II of the BTA initiative is expected to provide the following benefits:



Reduce Unit Cost (HARD DOLLARS)

Quantified Benefit (\$)	How will benefit be measured/realized?	When will benefit be realized?
Cost avoidance	Cost avoidance through eliminating duplication of effort, reuse of technology, and effective utilization of assets	Start accruing: 3rd Qtr 02
Scale economies in purchase of software	Cost savings through reduced software costs achieved through volume deals	Start accruing: 3rd Qtr 02
Reduced maintenance and training costs for new development efforts	The BTA processes will enable SFA to focus on obtaining technical skills in selected technologies versus having to manage a broad set of capabilities across a wide spectrum of custom integrated solutions	2nd Qtr 02
<i>Assumptions</i>		

Increase Customer Satisfaction

Quantified/Qualitative Benefit	How will benefit be measured/realized?	When will benefit be realized?
Increased customer satisfaction through improved understanding of impact of technology changes on business and improved alignment of technologies with business goals	Senior business involvement in technology related decisions will help ensure alignment with business goals. The Architecture Working Group (AWG) will provide a forum for discussion, understanding and communicating the impact of technology changes on the SFA. business units	1st Qtr 02



Quantified/Qualitative Benefit	How will benefit be measured/realized?	When will benefit be realized?
Ability to deploy new applications faster	Using a standard technology framework and repeatable processes will help reduce the effort for selection and integration associated with non-standard technologies	1st Qtr 02
Ease of coordinating standards with partner organizations (i.e. ELM, NCHELP) and Schools that develop their own software	Coordination of technology standards with partners will provide a unified view of technology. It will enable partners to understand SFA's strategic direction and vision, and help them to develop their systems for integration with SFA	2nd Qtr 02
<i>Assumptions</i>		
<ul style="list-style-type: none"> • Senior business management involvement through the Architecture Working Group (AWG) and the IRB/MC will continue; • Technology peer-group review processes are systematically conducted for all new projects. 		

Increase Employee Satisfaction

Quantified/Qualitative Benefit	How will benefit be measured/realized?	When will benefit be realized?
Efficiency in work through reusability of knowledge and components	By maintaining a central repository of technology architectures and standards, SFA will have ability to produce reusable architectures and components that may be used by multiple projects	2nd Qtr 02
Improved knowledge of technology standards and enterprise-wide impact of technology related decisions	Use of BTA will help communicate and improve cross-project technology related decisions	2 nd Qtr 02



Quantified/Qualitative Benefit	How will benefit be measured/realized?	When will benefit be realized?
Availability of a standard technology vocabulary	The BTA and Technology Policy Guide will provide a standard vocabulary and reference about IT to facilitate communication	1 st Qtr 02
<i>Assumptions</i>		

OTHER COST BENEFITS:

Include Avoidance of Future Costs, Reduction to any Non- SFA entity's costs and Other Unquantified Benefits.

Quantified/Qualitative Benefit	How will benefit be measured/realized?	When will benefit be realized?
Increased interoperability of SFA systems	Adhering to enterprise technology standards and policies will help systems integration and interoperability	1 st Qtr 02
Comply with Clinger-Cohen Act	Implementation of the BTA organization and processes, and their integration into with SFA's existing SLC processes	4 th Qtr 01
<i>Assumptions</i>		



Estimated overall dollar amount of all benefits listed above.

Quantified Benefits					
BY	BY+1	BY+2	BY+3	BY+4	Total
\$320,000+	\$320,000+	\$320,000+	\$320,000+	\$320,000+	\$1.6+m
Assumptions					
<ul style="list-style-type: none"> • Improvement in cost effectiveness of all modernization efforts and ongoing operations costs by a minimum of .5% (one-half of one percent). This amounts to over 320k per year, assuming a Modernization budget of approximately \$64m per year. • Examples of achieved during the Modernization program include: <ul style="list-style-type: none"> ○ Cost avoidance through reduced duplication of effort – EAI development environment: \$500k; ○ Cost avoidance through effective utilization of assets – server consolidation: \$35k per month; ○ Reduced software costs through volume deals – Oracle: over \$5m. 					

Costs

Provide costs, including those to implement the initiative and the costs to support it over its useful life.

	BY FY02	BY+1 FY03	BY+2 FY04	BY+3 FY05	BY+4 FY06
Update and publish Technology Infrastructure Blueprint	\$200,000				
Identify and Evaluate BTA Support Tool(s)	\$300,000				
Acquire, Configure and Implement Support Tool(s)	\$400,000				
Continue updates of Infrastructure Blueprint, and support for execution of BTA Processes	25,000	\$300,000	\$300,000	\$300,000	300,000
TOTAL	\$925,000	\$300,000	\$300,000	\$300,000	\$300,000



<i>Assumptions</i>

Total Cost of Ownership

What is the level of required enhancement after implementation?

An operations budget will be required for execution of the BTA processes, for operation and maintenance of the support tools, and maintenance of the Technology Infrastructure Blueprint.

What is the life span of this initiative?

BTA-Phase II is planned to span the period November 5, 2001 to October 31, 2002.

Alternatives

Discuss what could be done in place of this initiative and describe the consequences of each alternative.

Alternative	Consequence
Remain as-is	<ul style="list-style-type: none"> Reduced ability of SFA executives to effectively manage technology changes leads to inefficiencies due to mismatched technologies, and increased costs. Lack of repeatable processes will continue to foster imprecision in SFS's current development activities, which is a significant cost multiplier for every application. SFA will not achieve increased compliance with Clinger-Cohen Act, potentially leading to Congressional oversight and funding loss.
Non-technology solution	<ul style="list-style-type: none"> Manual maintenance of ITA will be labor intensive, and will detract from achieving consistency and accessibility to technology architecture standards across SFA, leading to increased unit costs.



Alternative	Consequence
Enhance an existing system	<ul style="list-style-type: none"> No appropriate existing systems.
Implement on a smaller scale	<ul style="list-style-type: none"> The business and CIO/IT organizations need to be full participants in BTA. Restricting BTA to only the IT organization will limit the benefits and will not address the key objective of obtaining full SFA-wide business perspectives in technology related decisions.
Other	

Risks

Risk	Description of Risk	Mitigation Strategy
Financial	BTA support tool solutions may turn out to be more expensive, or the implementation may be more complex and costly than planned.	Leverage existing tools wherever possible Manage scope of functionality requirements to help minimize costs
Technology	New solutions may introduce new technologies and complexity into SFA's IT Architecture (ITA)	Follow defined BTA processes to ensure benefits of any new technology exceed costs of increased complexity
Scope		
Management	Insufficient involvement of appropriate senior business executives.	Obtain buy-in and sponsorship of business unit GMs.
Exposure	<p>High exposure to SFA leadership and project sponsor if major technology decisions prove to be wrong.</p> <p>As the first Federal PBO, the visibility of SFA as it attempts to successfully achieve its Modernization Blueprint objectives is extremely high</p>	<p>A sound BTA process enhances early recognition and avoidance of risk. Risk is dealt with early in the project when costs, correction or mitigation are much lower.</p> <p>SFA Executive management must approve and closely coordinate the development of the enterprise-wide BTA approach</p>



Acquisition Strategy

Sources:

Indicate the prospective sources of supplies or services that can meet the need of this project. List the most likely offerors for the requirement, and/or the manufacturer and model of the equipment that will most likely be offered.

Most suitable sources are:

- Modernization Partner

Competition:

Describe how competition will be sought, promoted, and sustained throughout the course of the acquisition, including any performance requirements that will be required.

Contract Considerations:

For each contract contemplated, discuss contract type selection; use of multiyear contracting, options, or other special contracting methods, ex: performance-based.



Schedule/Milestones (including acquisition cycle)

#	Milestone	Start Date	End Date
1	Phase II Project Plan	Nov. 5, 2001	Nov. 14, 2001
2	Updated IT Standards and Technology Schedule	Nov. 5, 2001	Dec. 20, 2001
3	First AWG Support Group – Peer Group Review Findings	Nov. 5, 2001	Nov. 29, 2001
4	Support Tool Requirements	Nov. 5, 2001	Nov. 29, 2001
5	Signed Agreement for Support Tool	Nov. 29, 2001	Jan. 31, 2002
6	Support Tool Solution Design	Feb. 1, 2002	Mar. 29, 2002
7	Production Readiness Review Documented	April 1, 2002	May 31, 2002
8	Support Tool Deployment	June 1, 2002	June 28, 2002
9	Technology Infrastructure Blueprint Published	June 1, 2002	Jul. 31, 2002
10	Business Case for Continued Support of BTA	June 1, 2002	Jul. 31, 2002