



Business Case: Campus-Based Programs' System Re-Platform

This document gives the reasons why SFA should pursue the re-platforming of Campus-Based programs' legacy system.

Initiative Description

Summary

The Campus-Based (CB) System enables the United States Department of Education (ED) to provide more than \$2 billion in Title IV student financial assistance funds to about 4000 post-secondary institutions each year. The Programs provide grant, work-study, and loan funds to these institutions, and the institutions in turn use these funds to provide student financial assistance to more than 1,000,000 students each academic year. There are several distinct programs, each with its own legislative history and regulations, within the Campus-Based Programs. These include the Federal Perkins Student Loan Program, the Federal Work-Study Program, the Federal Supplemental Educational Opportunity Grant Program, and the Work Colleges Program.

CAMPUS-BASED PROGRAMS STATISTICS

TOTAL FUNDS

Total:	2.11 Billion
FSEOG	579 M
FWS	821 M
Perkins	710 M

BY SCHOOL TYPE

Type	FSEOG		FWS		Perkins		Total	
Public	302 M	52%	449 M	55%	321 M	45%	1,072 M	51%
Private, Not For Profit	235 M	41%	349 M	43%	370 M	52%	954 M	45%
Proprietary	42 M	7%	23 M	2%	19 M	3%	84 M	4%

AVERAGE AWARD (per enrolled student)

Type	FSEOG	FWS	Perkins	Total
Public	\$22	\$32	\$23	\$77
Private, Not For Profit	\$94	\$139	\$148	\$382
Proprietary	\$121	\$66	\$55	\$243

The Campus-Based System supports processing for the FISAP (Fiscal Operations Report and Application to Participate) cycle. The Campus Based System processes FISAP data received via EDConnect/SAIG, calculates funding formulas, and provides funding to schools for the Federal Perkins Loan, Federal SEOG, and Federal Work Study Programs.

Some major functions include:



- Process campus-based funding
- Maintain and edit FISAP data
- Calculate and notify institutional awards
- Allocate campus-based funds
- Reconcile accounts and reporting
- Default reduction assistance program
- Tracking functions
- Edit processing and delivery
- Award Notification
- Secure Login

This initiative would replace the current application through a rewrite of the application programs, migration of the current VSAM data to a relational database system, and development of a web-based front-end. The latter would include a web-based alternative FISAP file submission process via the Internet.

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

This initiative would modernize the current system platform that consists of an application developed in COBOL, running on an IBM mainframe with data stored in a VSAM file structure. The application was one of the earliest systems bought on-line by SFA and due to long-term patching and maintenance of the programs and a change in the current long-term contractor, there are concerns regarding ability of the application to continue to be maintained on its current platform. The current contract for maintenance expires 6/30/01 and all contract extensions have been exhausted. Thus, there will be a new contractor providing support for the system effective 7/1/01. These two factors, the condition of the current application's code and a new contractor could result in a significant increase in risk. In addition, the storage of data in its current form makes it very difficult for SFA staff and institutions to get access to information when and how they need it.

What is the purpose of the initiative?

The purpose of this initiative is to replace the current Campus-Based programs system to increase system maintainability, increase SFA staff access to data and analysis capabilities, and reduce cycle time for application processing for institutions, and provide institutions and servicers with an alternative submission option for the FISAP file. In addition, this initiative will begin the transformation of the CB system to support the business objectives of the Common Origination and Disbursement process.



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

The project scope will consist of analysis, design, construction and testing of the Campus-Based relational database system. The scope shall include:

- Participate in Focus Group sessions to capture requirements
- Re-write of current application business logic in object-oriented language:
 - Process campus-based funding
 - Maintain and edit FISAP data
 - Calculate and notify institutional awards
 - Allocate campus-based funds
 - Reconcile accounts and reporting
 - Tracking functions
 - Edit processing and delivery
 - Award Notification
- Migration of VSAM files structure to relational database structure
- Conversion of current and historical data
- Development of web front-end to replace FISAP software:
 - Automatic loading of prior year data files
 - Ability to enter data and save incomplete FISAPs
 - Ability to upload single or multiple school records
 - Ability to print FISAP and signature pages
 - Ability to validate (edit process) data before submission
 - Ability to receive acknowledgement and edit files
- Award Notification letters to schools
- Secure Login
- Award Notification letters to schools
- Ability to see and print award information (Tentative funding, Final Funding, TC Payments, and ESOAs)
- Secure school/servicer log-in based on TIVWAN/SAIG participation file
- Ability to see and print tracking information

The new maintenance contractor will participate in the development of this system to allow success transition and operation. This participation will include involvement in analysis sessions, design walkthroughs and system and intersystem testing.

The scope shall not include:

- Modifications to the EDEExpress application and/or process
- Modifications to SAIG (TIVWAN) applications and/or process

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

The duration of the CB program re-platform initiative is November, 2000 to November 2001.

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

Institution and servicers who chose to utilize the alternative transmission option will need to have web access. In addition, the design of the relational database must support integration with Common Origination and Disbursement.

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

The development team does not anticipate the need to make modifications to the FISAP software extract.



The interfaces for multiple systems may need to be modified including FMS and the SAIG (TIVWAN) transmission process. The latter is currently under consideration for modifications that could impact this effort. In addition, the design of the solution must support integration with Common Origination and Disbursement.

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

The business processes of Campus-Based programs for Title IV funds are impacted by this initiative. Specifically, the FISAP turnaround time will be reduced significantly from the current 5 day correction processing turnaround to real-time processing (real-time relates business processing not transmission to and from institution/servicer). In addition, institutions and servicers will have the choice of transmitting the FISAP file via a web page versus SAIG (TIVWAN). SFA staff and institution will also have advanced reporting capabilities. In addition, the design of the solution must support integration with the Common Origination and Disbursement business process.

Benefits

- **Currently, schools are challenged with:**
 - FISAP correction processing turnaround time of 5 day
 - Transmission of FISAP file via SAIG (TIVWAN) for schools forced to utilize
 - Lack of self-service capabilities
 - Lack of analytical capabilities
 - Forced to use EDEXpress for once a year process

- **Likewise, SFA is concerned with:**
 - Lack of functionality to support improved access to data for program monitoring
 - Inability to quickly respond to internal and external ad-hoc inquiries
 - Lack of integrated, user-friendly application
 - Lack of self-service capabilities
 - Lack of analytical capabilities

- **The benefits that this solution brings are:**
 - Intuitive web-based front-end that provides real-time edits of FISAP/correction data
 - Supports alternative transmission option to SAIG (TIVWAN)
 - Improved functionality and data access to increase effectiveness of program oversight
 - Ability to quickly respond to internal/external inquiries
 - A simpler, integrated process for looking up institution / program data
 - Enhanced analytical reporting capabilities
 - Increased self-service capabilities
 - Integrated solution using “State of the Art” Technology
 - Integration capability with Common Origination and Disbursement process
 - Support integration with enterprise portal strategy



-

BENEFITS	
<i>Quantified Benefits (e.g., cost reduction)</i>	<i>Quantified Benefits (e.g., revenue enhancement)</i>
Reduced FTEs	0
Operating Expense Savings Per Year:	Reduced maintenance costs
FY2001	<\$3,237,999>
FY2002	\$ 1,693,392
FY2003	\$ 1,693,392
FY2004- 08	\$ 2,643,040
Total:	\$462,257
<i>Assumptions</i>	
<i>Benefit 1 assumptions</i>	<i>Benefit 2 assumptions</i>

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.

- **Reduced Unit Cost**
 - Reduced maintenance costs to support Campus-Based programs
 - Increased effectiveness of program oversight through improved functionality and access to data

- **Customer Satisfaction**
 - Reduced turnaround time for processing FISAP
 - Alternative FISAP transmission capability
 - Enhanced analytical reporting capabilities
 - Increased self-service capabilities

- **Employee Satisfaction**
 - Increased effectiveness of program oversight through improved functionality and access to data
 - Inability to quickly respond to internal and external ad-hoc inquiries
 - A simpler, integrated process for looking up institution / program data will reduce the amount of stress that is now synonymous with such lookups, and will increase the time available to review and analyze data (as opposed to trying to piece it together).
 - Enhanced analytical reporting capabilities
 - Increased self-service capabilities
 - Integrated solution using “State of the Art” Technology

Provide a narrative description of the qualitative benefits or expected outcomes of implementing this initiative.

The re-write of the current application and migration of the Campus Based System from a VSAM storage system to a relational database system will increase customer satisfaction through the reduction of the FISAP correction processing cycle, provide a web-based FISAP process including an alternative FISAP transmission options for schools who only use EExpress for this process. The solution will also provide enhanced customer service and analytical reporting capabilities.



The solution will result in increased employee satisfaction through improved application functionality, improved access to data to increase effective oversight, the ability to quickly respond to internal and external ad-hoc inquiries, and increased self-service capabilities. The relational database design will also support integration with the Common Origination and Disbursement initiative.



Costs

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

COSTS			
<i>First-Time Implementation</i>		<i>On-Going</i>	
System Development		On-Going Operating Costs	
FY2001	*\$ 5,459,999 M	FY2001	*\$ 4,115,565 ¹
		FY2002	*\$ 1,693,392 ²
Total	*\$ 5,459,999 M	FY2003	*\$ 1,693,392 ²
		FY2004	*\$ 1,693,392 ²
<i>Assumptions</i>			
<i>First-Time Implementation</i>			
Includes 1020 hours of NCS (595) and UAL (425) development support of \$218,402			
<i>Transition Year Costs – FY00-01</i>			
1. \$4,115,565 – MF OP costs = \$2,635,000			
MF OP costs = \$878,333 (\$2,635,000/12*4)			
MF VDC costs = \$320,000			
C/S OP costs = \$251,832 (\$125,916* 2 mos)			
C/S VDC costs = \$30,400 (\$3,500*4 servers*2 mos + network support \$1,200* 2 mos)			
<i>On-Going – FY02-04</i>			
2. \$1,693,392 – C/S OP costs = \$1,510,992 (\$125,916* 12 mos)			
C/S VDC costs = \$182,400 (\$3,500 * 4 servers * 12 mos + network support \$1,200* 12 mos)			
*Based on average VDC E3500 Sun server costs of \$3,500 * 4 Server * n months, \$14,400/year VDC network support costs, and estimated vender application maintenance costs – \$125,916/month (PM.5, TL 1.0, Java Developer 1.0, Oracle DBA .5, HD .5)			

Cost-Benefit Analysis

An economic analysis was performed to identify the savings in operating and maintaining the Client Server (C/S) solution instead of the mainframe portion of current legacy system.

Cost projections for FY01 assume parallel processing of systems for two months – August and September and multiple contractors (UAL and new maintenance contractor) from March – June.



CBP Cost-Benefit Analysis

	FY01	FY02	FY03	FY04 - 08	Totals
CBP Operating Costs – Current	\$2,222,000	\$2,222,000	\$2,222,000	\$11,110,000	
CBP Operating Costs – Estimated	\$5,459,999	\$1,693,392	\$1,693,392	\$8,466,960	
Estimated Savings	\$<3,237,999>	\$528,608	\$528,608	\$2,643,040	\$462,257

Payback

The payback is FY08 as calculated as follows: \$3,237,999/\$528,608.

Risks

The following outlines the primary risks associated with the implementation of the Campus-Based Programs.

Risk	<i>Potential</i>	<i>Impact</i>	<i>ED/ SFA Ability to Control</i>	Mitigation Plan
Inability to meet implementation schedule for database migration and application development could impact Schools	<i>Low</i>	<i>High</i>	<i>High</i>	Allow current legacy system and re-platformed application to run in parallel to ensure required uptime
Insufficient performance of end-user testing.	<i>Medium</i>	<i>High</i>	<i>Medium</i>	Detailed implementation plan that addresses end-user test planning and execution
Failure to properly communicate roles to ED/ SFA staff and provide support could hinder the implementation	<i>Low</i>	<i>High</i>	<i>High</i>	Detailed communication plan and involvement of ED/ SFA employees throughout the development and implementation process
Insufficient ED/ SFA staff to support multiple overlapping testing processes.	<i>Medium</i>	<i>High</i>	<i>High</i>	Detailed implementation plan that addresses staffing needs in advance
Insufficient ED/ SFA staff to support parallel processes during startup	<i>Medium</i>	<i>High</i>	<i>High</i>	Detailed implementation plan that addresses staffing needs in advance
Failure to properly communicate changes to School community may impact success	<i>Medium</i>	<i>High</i>	<i>High</i>	Detailed implementation plan that addresses communication needs



Alternatives

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

Alternative	Consequence
Remain as-is	The current contract for support of the Campus Based program system has expired and all extensions have been exhausted. The application was one of the earliest systems bought on-line by SFA and due to long-term patching and maintenance of the programs, there are concerns regarding ability of the application to continue to be maintained on its current platform. Therefore, this option is not viable as there will be a change in contractor.
Enhance an existing system	N/A
Implement on a smaller scale	Implement a portion of the solution (i.e. migration of data to relational database w/o re-write of application. The former would require complex modifications of the COBOL programs to access a relational database. The solution would also need to continue to support the flat file format on the front end. The latter would not address the concerns regarding on-going support of the application.
Other	Modernization Partner subcontracts with Universal Automation Labs (UAL) to maintain the current system through migration to the Common Origination and Disbursement solution. During discussions with contracting, concerns regarding this option were raised as the SBA current administers contract is a Small and Disadvantaged Business contract and neither AC or UAL (graduated) are designated as such. Therefore, this option does not appear viable.

Technology

Discuss the critical technology issues that impact: time to market and total cost of ownership.

Time to Market

What is the degree of complexity in integrating with other systems?

The integration complexity for this initiative is relatively low. The integration points are extract driven interfaces with SAIG (TIVWAN) and FMS. It is anticipated that there will be a significant level of integration with Common Origination and Disbursement process. The development team expects to work closely with the COD team to define these requirements as we get further into both initiatives.

Has this technology been implemented at Education before? If not, is this a proven technology?

While the technology will be finalized during the planning of this phase, the tentative technology may include, but not be limited to the following components of the technical architecture:

- Sun Enterprise 3500 Server
- Sun Solaris OS
- IBM HTTP Server (includes Websphere)
- Oracle 8i Database



ED has or is in the process of implementing several solutions on the platforms including SFANet (Intranet) and the Enterprise Portal.

Does SFA have the technical expertise to implement this initiative?

ED has or is in the process of implementing several solutions on the platforms including SFANet (Intranet) and the Enterprise Portal.

Total Cost of Ownership

Does this technology comply with the standard technical architecture of SFA? Education? Federal Government?

The tentative architecture would comply with SFA standard technical architecture.

What is the level of required enhancement after implementation?

The level of required enhancement would dependent on SFA strategy. This initiative would provide a solution that allows SFA to effectively distribute program funds to institutions. SFA could, optionally, elect to develop a web interface to replace the current FISAP software. This option would allow SFA to provided enhanced features to the institutional.

What is the life span of this initiative?

The implementation is scheduled to be completed by November, 2001. It is anticipated that the solution will be modified significantly by the implementation of the Common Origination and Disbursement solution.

TASK NAME	DURATION	START	FINISH
CB Contract Activity	392 days	Mon 10/30/00	Tue 04/30/02
NCS FISAP PC Development	173 days	Thu 11/09/00	Mon 07/09/01
CB Programs Re-Platform	385 days	Wed 11/13/00	Mon 05/03/02
Detail Project Plan	13 days	Wed 11/13/00	Tue 11/29/00
System Requirements	60 days	Wed 11/01/00	Tue 01/23/01
System/Site Design	66 days	Mon 12/04/00	Mon 03/05/01
System / Site Development	107 days	Mon 02/19/01	Fri 07/17/01
Web Front-End Testing	265 days	Mon 04/30/01	Mon 05/03/02
Application Testing	81 days	Wed 07/18/01	Wed 11/07/01