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**FSA Modernization Partner**

# FSA Technology Infrastructure Blueprint

Version 2.4

Business-Technology Alignment  
Task Order #85

July 2002

## Document Revision History

Version No.	Date	Author	Revisions Made
1.0	November 2, 2001	Karen Anderson	General update of document.
2.0	April 30, 2002	Karen Anderson, Bill Malyszka	Includes information from system surveys. Added several systems. Points of Contact and Programming Languages were added for each system.
2.1	May 15, 2002	Bill Malyszka, Karen Anderson	Web enabled document with Target Architecture.
2.2	May 21, 2002	Karen Anderson, Bill Malyszka	Incorporated client feedback.
2.4	August 9, 2002	Bill Malyszka	Added systems to align with Target Architecture. Validation of systems with project teams. Reorganized the document to align with the break out in the Target Architecture. Updated logical models to include host names..

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## **1 INTRODUCTION**

The Federal Student Aid (FSA) Technology Infrastructure Blueprint (TIB) describes the common, enterprise-wide technology infrastructure supporting FSA at all levels of the organization. In addition, it contains:

- A set of technology models and statements that guide FSA toward a consistent, compatible technology infrastructure based on FSA defined standards (see *FSA Technology Policies, Standards & Products Guide*) and supporting FSA's modernization vision
- A high-level design illustration of the essential components of the FSA technology infrastructure
- A description of the technology infrastructure that is the foundation for each FSA application defined by the Target Architecture (TA)
- Points of contact for each system within the FSA technology infrastructure

The TIB details the production architecture which is the collection of technology infrastructure elements upon which applications are executed. The logical model of the development architecture is summarized in the TIB, but a detailed description of specific development architectures is not provided in this document.

This document will be updated and published at a minimum on an annual basis through the BTA process. This version of the TIB is based on information collected through July 30, 2002

## **2 FSA INFRASTRUCTURE LOGICAL MODEL**

The FSA Infrastructure is portrayed in the Target Architecture (TA). The infrastructure reduces the need for customized point-to-point system interfaces by provides support for seamless integration between application touch-points through a set of interfaces or connectors.

Figure 1 – 2002 FSA Target Architecture shows how the technology infrastructure provides seamless integration between the FSA applications. The EAI layer is the glue for providing the integration between the applications where interfaces do not exist. The EAI layer provides a set of application adapters and communication services.



## 2.1 Enterprise Application Integration

The Enterprise Application Integration (EAI) provides the services necessary to support application integration across FSA. The topology supports the implementation of an asynchronous messaging back-plane that forms the basis for the deployment of a hub and spoke network infrastructure. The topology also supports application connectivity and transaction processing through the integration of pre-built application adapters, gateways and connector frameworks. The following topology diagram depicts execution topology and product mapping for the EAI Infrastructure Domain.

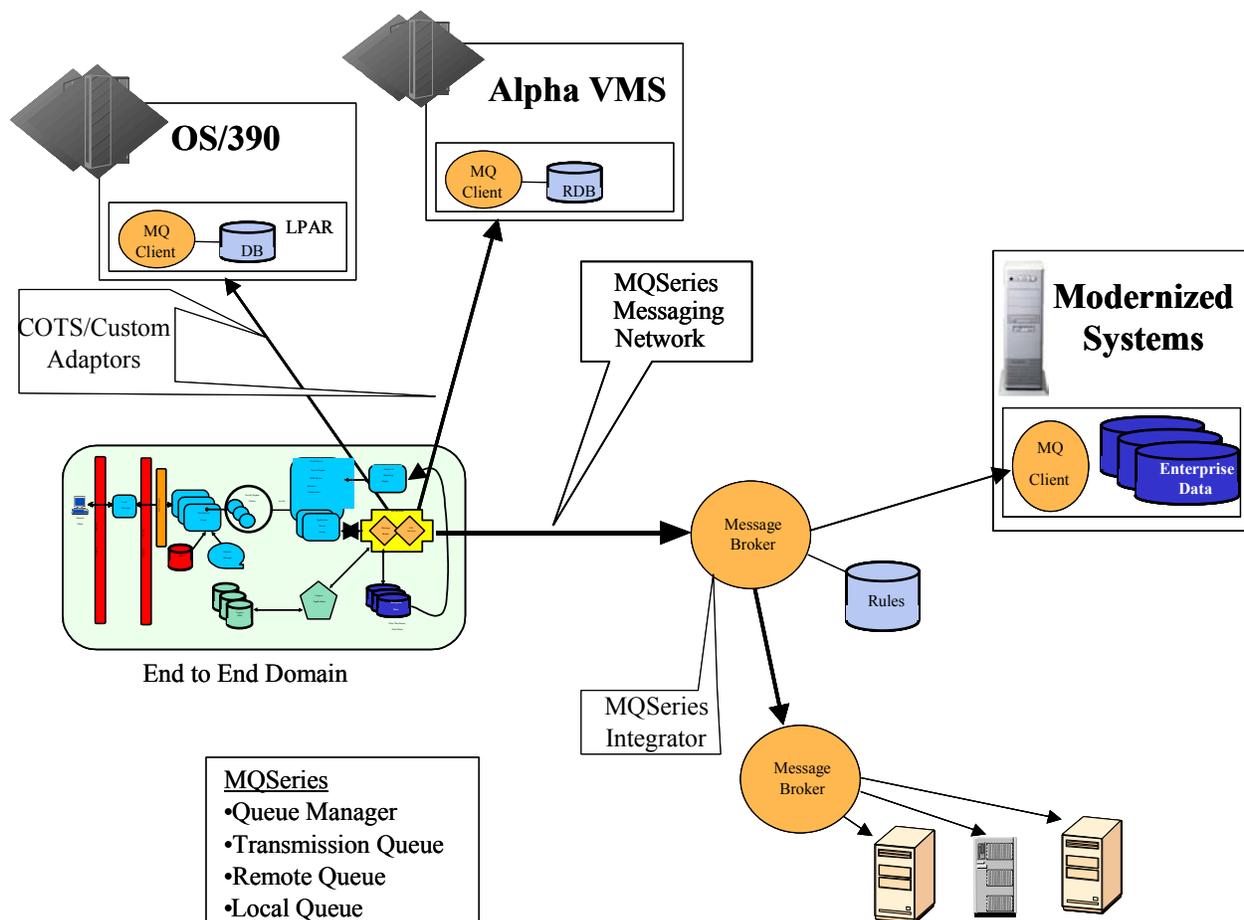


Figure 2 – EAI Infrastructure Domain

The EAI includes the following components or nodes:

- *Queue Managers* – Queue Managers are run-time processes that are responsible for managing queues of messages for application programs using International Business Machine's (IBM) MQSeries. Queue Managers help maintain the flow of messages through a queue and manage communication links between other queues.

- *Message Broker* -The role of the Message Broker is to provide a layer of logic to the messaging layer. The Message Broker is the ‘glue’ between intercommunicating applications. The Message Broker ensures that messages are routed correctly between applications and in a format in which the applications can understand each other. FSA applications will use the Message Broker MQSeries Integrator (MQSI) to provide a mechanism for:
  - Intercommunication between applications that are served by the application server
  - Asynchronously obtaining data from legacy applications
  - Asynchronously updating legacy applications
  - Routing data to and from Enterprise Data Warehouses and Data Marts.
- *Workflow Server* – The Workflow node uses the messaging infrastructure for communication. The role of a Workflow Server is to automate business processes involving people and applications to give the enterprise added control over business activities. In the case of FSA it allows the developer to establish rules for managing updates to applications across the enterprise.
- *Application Adapters* - Application Adapters provide direct connectivity to applications and disparate data sources. Application Adapters allow applications to coordinate transactional updates across different data sources. Application Adapters are used by Application Servers such as Component Broker (CB) to provide support for On-Line Transaction Processing (OLTP).

## **2.2 FSA Applications**

The FSA TIB consists of four types of systems;

- *Data Mart Systems* are systems that store information primarily in Oracle databases. Data stored in the Data Mart Systems provides FSA with a more normalized data schema that lends itself to the use of business components and object relational mapping. Data for business is typically extracted from the data marts and staged for delivery to portal users, analysis tools, or other FSA users.
- *Enterprise Application Systems* directly provide business capabilities required for FSA business processes to be completed.
- *Middleware & Integration Application Systems* facilitate the transfer of data between FSA systems or between an FSA system and an external system.

- *Portal Application Systems* provide access to data and processes via the FSA portal. This delivery system uses web pages to provide users with the ability to enter, edit, or view data, as well as, communicate with FSA.

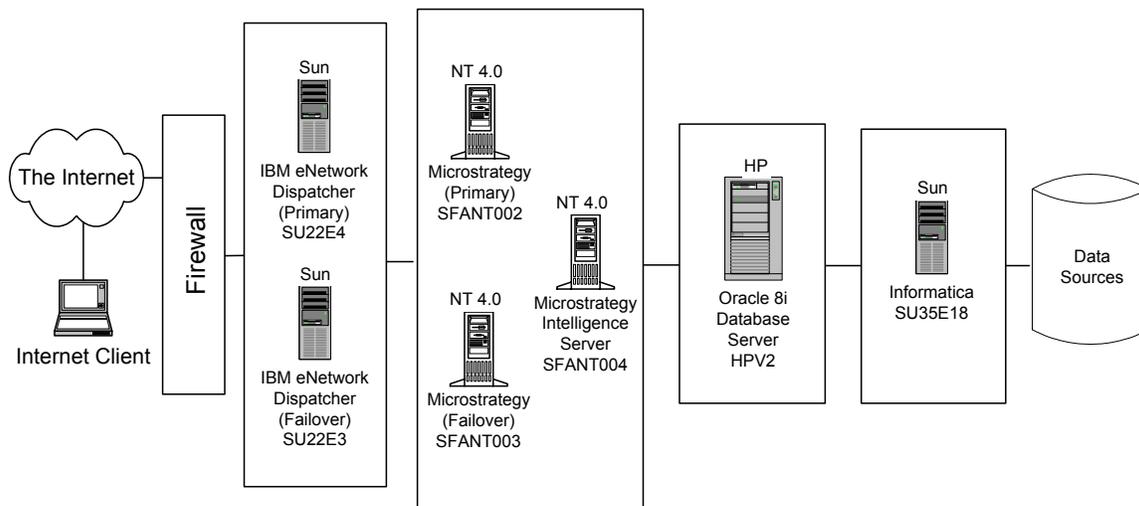
### 3 PRODUCTION INFRASTRUCTURE

Each system on the FSA IT production infrastructure is represented with a brief description of the function of the application, a list of the technologies used in the system, and logical model of the system. The programs detailed include:

<b>FSA Enterprise Applications</b>	<b>FSA Data Marts</b>
Central Processing System (CPS)	Credit Management Data Mart (CMDM)
Common Orig. & Disbursement (COD)	Delinquent Loan Data Mart
Direct Loan Consolidation System (DLCS)	Financial Partners Data Mart (FPDM)
Direct Loan Servicing System (DLSS)	
eCampus Based System (eCB)	
Electronic Record Management	
Fed. Family Ed. Loan Program (FFEL)	
Financial Mgmt. Systems (FMS)	
National Student Loan Database System (NSLDS)	
Ombudsman	
Post-secondary Education Participants System (PEPS)	
<b>FSA Middleware &amp; Integration Applications</b>	<b>FSA Portal Applications</b>
Enterprise Application Integration (EAI)	Eservicing
FSA Intranet	DLSS Web Site
Student Aid Internet Gateway	FAFSA on the Web
	FSA Portals
	HR Modernization
	Info for Financial Aid Partners (IFAP)

#### 3.1 Data Marts

The FSA Data Marts hold enterprise wide data which is extracted for deployment to portal applications and other business applications within FSA. The FSA Data Marts share a common logical model which is illustrated in Figure 3 – Data Mart Logical Model



**Figure 3 – Data Mart Logical Model**

### ***3.1.1 Credit Management Data Mart***

*Last updated July 30, 2002*

#### **Description**

The Credit Management Data Mart (CMDM) was created to replace financial reporting previously completed by the Direct Loan legacy accounting system, FARS. The CMDM brings together Direct Loan Servicing financial transactions with month end Direct Loan borrower, loan and institution demographic data to provide FSA with a comprehensive reporting solution. The functional objectives of CMDM include:

- Provide FSA CFO and Student Credit Management with a tool to report on detailed financial transactions
- Provide a transaction register to FMS for DLSS transactions
- Provide Credit Management and other departments with a tool to complete MIS reporting from Direct Loan Data
- Provide direct web access to end users so they can retrieve reports as needed
- Provide access to designated FSA Power Users so they can create new reports

CMDM provides various levels of reporting capabilities to end-users. It serves as the primary reporting tool for the Direct Loan Program at the borrower, loan and financial transaction level.

### Infrastructure Technologies

Product	Server	Use
Informatica Power Center Server 5.0	SU35E18	Data Acquisition
Oracle 8i 8.1.7	HPV2	Database Management
Verisign (SSL)	SFANT002 SFANT003	Encryption
MicroStrategy 7.1.2	SFANT002 SFANT003	End User Data Access
Intelligence Server 7.0	SFANT004	End User Data Access
MicroStrategy Web 7.0	SFANT002 SFANT003	End User Data Access
CommerceQuest Data Integrator 4.0.1	SU35E18 HPV2	File Transfer
MQ Series Client 5.2	SU35E18 HPV2	Middleware
HP/UX 11.0	HPV2	Operating System
Microsoft Windows NT 4.0	SFANT002 SFANT003 SFANT004	Operating System
Sun Solaris 2.6	SU35E18	Operating System
Microsoft IIS 4.0	SFANT002 SFANT003	Web Server
IBM eNetwork Dispatcher	SU22E3 SU22E4	Load Balancing

### Programming Languages

Language	Version
PL/SQL	8

### System Interfaces

Direction	System	Data Transfer Method
Receive data from	FMS	MQ Series / Data Integrator
Receive data from	DLSS	MQ Series / Data Integrator

### Points of Contact

Role	Contact	Organization	Phone	Email Address
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### 3.1.2 *Delinquent Loan Data Mart*

*Last updated July 30, 2002*

#### Description

The Delinquent Loan Data Mart (DLMD) maintains data on direct loans that are either in jeopardy or are already in default. This data is used to communicate with borrowers and collection agencies.

#### Infrastructure Technologies

Product	Server	Use
Informatica Power Center Server 5.0	SU35E18	Data Acquisition
Oracle 8i 8.1.7	HPV2	Database Management
MicroStrategy 7.1.2	SFANT002 SFANT003	End User Data Access
Intelligence Server 7.0	SFANT004	End User Data Access
IBM eNetwork Dispatcher	SU22E3 SU22E4	Load Balancing

HP/UX 11.0	HPV2	Operating System
Microsoft Windows NT 4.0	SFANT002 SFANT003 SFANT004	Operating System
Sun Solaris 2.6	SU35E18	Operating System
IBM IHS Server 1.3.12	SU22E4 SU22E3	Web Server
Microsoft IIS 4.0	SFANT002 SFANT003	Web Server

### Programming Languages

Language	Version
PL/SQL	8

### System Interfaces

Direction	System	Data Transfer Method
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### Points of Contact

Role	Contact	Organization	Phone	Email Address
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### **3.1.3 Financial Partners Data Mart**

*Last updated July 30, 2002*

#### **Description**

Within the Financial Partners (FP) Channel, data is fragmented across various legacy systems, making the process of extracting information time consuming, inconsistent, and costly. The FP Data Mart provides customer information for employees and partners. The FP Data Mart will ultimately be the main source of consolidated customer information supporting several key business areas within the FP Channel.

### Infrastructure Technologies

Product	Server	Use
Informatica Power Center Server 5.0	SU35E18	Data Acquisition
Oracle 8i 8.1.7	HPV2	Database Management
MicroStrategy 7.1.2	SFANT002 SFANT003	End User Data Access
Intelligence Server 7.0	SFANT004	End User Data Access
IBM eNetwork Dispatcher	SU22E3 SU22E4	Load Balancing
HP/UX 11.0	HPV2	Operating System
Microsoft Windows NT 4.0	SFANT002 SFANT003 SFANT004	Operating System
Sun Solaris 2.6	SU35E18	Operating System
IBM IHS Server 1.3.12	SU22E4 SU22E3	Web Server
Microsoft IIS 4.0	SFANT002 SFANT003	Web Server

### Programming Languages

Language	Version
PL/SQL	8

### System Interfaces

Direction	System	Data Transfer Method
Receive data from	FMS	EAI Batch
Receive data from	NSLDS	EAI Batch
Receive data from	PEPS	EAI Batch
Receive data from	Raytheon (provides Lender info.)	Informatica

## Points of Contact

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## 3.2 Enterprise Applications

FSA Enterprise Applications are infrastructure elements that employ FSA technology standards to provide business functions. Enterprise Application systems are also integrated with Data Mart and Portal systems.

### 3.2.1 Central Processing System (CPS)

*Last updated July 30, 2002*

#### Description

CPS processes Federal Student Aid applicant data and sends the results to students, schools, and the Department of Education. The processing is performed at the Virtual Data Center (VDC) in Meriden, CT, while the printing is done at NCS Pearson in Cedar Rapids, Iowa.

Students may file either a paper or electronic application. All application data transmitted to the CPS must pass an extensive series of computerized edits. Selected records are sent out to a different external matching agencies such as Social Security Administration (SSA), Veteran's

Administration (VA), Immigration and Naturalization Service (INS), National Direct Student Loan Data System (NSLDS), and Selective Service Agency (SS). There are additional edits check for incomplete or inconsistent data. CPS calculates the EFC for applications that successfully pass the computer edits.

CPS generates several different outputs. An Institutional Student Information Report (ISIR) is sent to the organization submitting an electronic application. An ISIR is also sent to organizations and state agencies listed on the student's application and participating in the Department of Education's Electronic Data Exchange (EDE). CPS prints and sends a Student Aid Report (SAR) to applicants who file by paper. A one-page paper SAR Acknowledgement is sent to applicants who submitted electronic applications through their institution's financial aid offices or via FOTW and ROTW.

### **Infrastructure Technologies**

<b>Product</b>	<b>Server</b>	<b>Use</b>
Oracle 8i 8.1.7		Database Management
IBM DB2	CPSP	Database Management
IBM Image Plus	CPSP	Imaging
IBM WebSphere Enterprise Edition 3.5.5		Application Server
IBM IHS Server 1.3.12		Web Server
Netscape Server		Web Server
Web Trends		Web Server Monitoring
BTRADE	CPSP	Electronic Data Transfer
Netscape Directory Server		Directory Server
OS/390 MVS 2.08	CPSP	Mainframe Operating System
CICS 4.1	CPSP	Mainframe Operating System
HP/UX 11.0		Operating System
Sun Solaris 2.6		Operating System
Rational ClearCase 4.1		Configuration Management
CA Endeavor 3.8	CPSP	Configuration Management
CA CA-7	CPSP	Operations Management
CA TNG		Operations Management
Cisco Local Director		Load Balancing
IBM RACF	CPSP	Access Control Authentication
Tripwire		Host Intrusion Detection
Verisign		Encryption

## Programming Languages

Language	Version
Java	
XML	
PL/SQL	
C++	

## System Interfaces

Direction	System	Data Transfer Method
Bi-directional	COD	EAI Batch
Bi-directional	eServicing	Oracle Stored Procedure
Receive data from		
Bi-directional	FoTW	Batch
Bi-directional	FSA Intranet	EAI Client
Bi-directional	SAIG	Batch

## Points of Contact

Role	Contact	Organization	Phone	Email Address
FSA Sponsor	Jeanne Saunders	FSA	(202) 377-3246	<a href="mailto:jeanne.saunders@d.gov">jeanne.saunders@d.gov</a>
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### **3.2.2 Customer Relation Management 4 Federal Student Aid (CRM4FSA)**

*Last updated July 30, 2002*

#### **Description**

Customer Relation Management 4 Federal Student Aid (CRM4FSA) introduces a new approach to managing FSA customer contacts. The initial release of CRM4FSA is the adoption of one telephone number for FSA customers to use when seeking customer care – 1-800-4FEDAID. A key component of this effort is an improved and expanded Interactive Voice Response System (IVR) capability. Future releases of CRM4FSA will add additional functionality resulting in

customers being routed to the services they need. Future releases will also provide customer services through the web.

### Infrastructure Technologies

Product	Server	Use
Siebel 7.0.4		Customer Relation Management
Microsoft Windows 2000		Operating System
IBM MQSeries System Integrator		Middleware
iPlanet		Web Server
Sun Solaris		Operating System
Oracle 8i		Database Management System
Cicso ICM		Computer Telephony Integration
IBasis		Interactive Voice Response
Interwoven		Content Management

### Programming Languages

Language	Version
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### System Interfaces

Direction	System	Data Transfer Method
Uni-directional	PEPS	MQSeries
Bi-directional	CPS	MQSeries
Bi-directional	FSA PIN Management	MQSeries

### Points of Contact

Role	Contact	Organization	Phone	Email Address
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Project Lead	Kelly Tate	Accenture	(202) 962-0633	<a href="mailto:kelly.f.tate@accenture.com">kelly.f.tate@accenture.com</a>

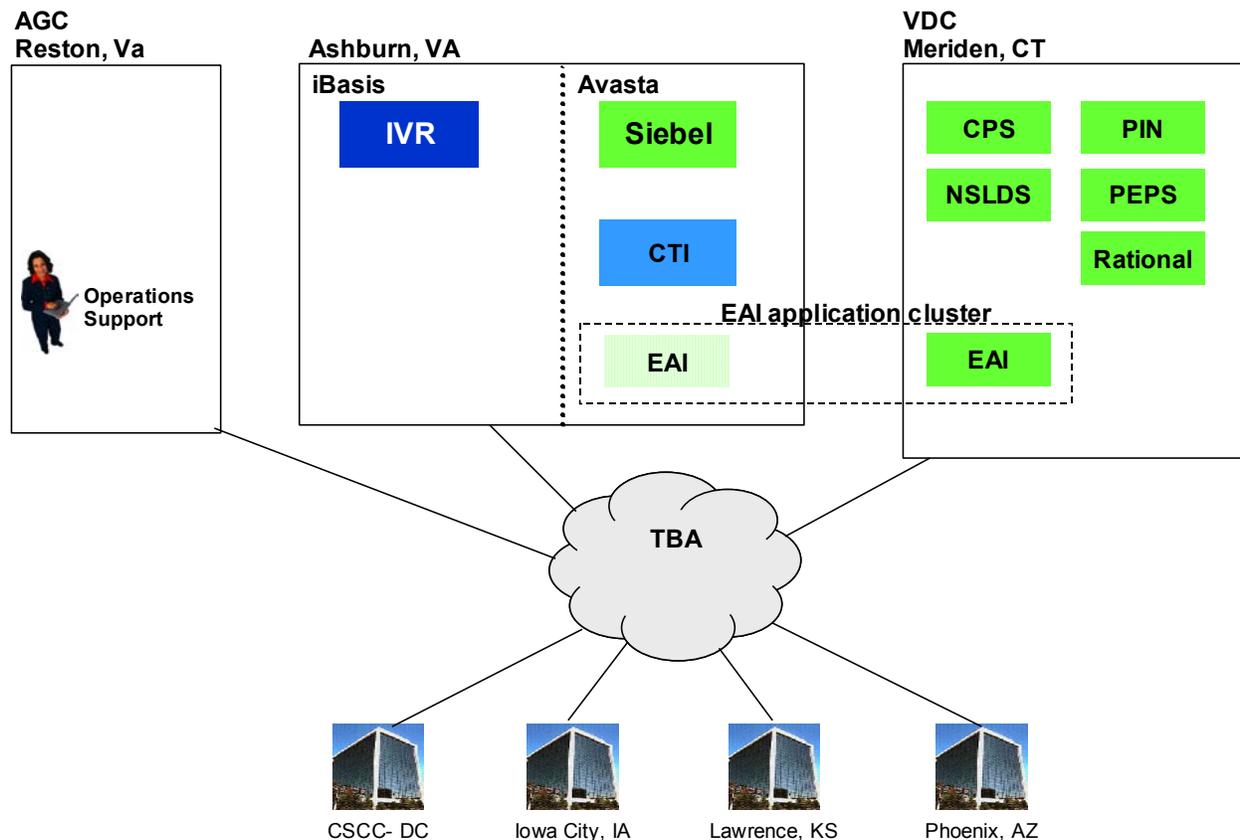


Figure 4 – Customer Relation Management for Federal Student Aid Logical Model

### 3.2.3 Common Origination & Disbursement (COD)

Last updated April 30, 2002

#### Description

The COD application simplifies the process for schools to obtain financial aid for their students. COD supports the FSA objective of achieving an enterprise-wide solution that provides real-time data to students, schools, and financial partners via web portals. In addition, the COD solution provides FSA with cost efficiencies by enabling FSA to deliver financial aid for Pell Grants, Direct Loans, and Campus-based programs through a common process. DLOS and RFMS are legacy systems that are being replaced by COD.

COD resides on a proprietary architecture at subcontractor Total Systems (TSYS). This is an evolving architecture that uses IBM MQSeries Messaging and Integrator for connectivity to FSA EAI.

### Infrastructure Technologies

Product	Server	Use
MQSeries Workflow 3.2.2	EAI	Workflow Management
Sendmail	TSYS	Mail Server
IBM DB2	TSYS	Database Management
Web Trends	TSYS	Web Server Monitoring
MQSeries Server 5.2		Middleware
MQSeries Client 5.2		Middleware
CommerceQuest Data Integrator 4.0.1		File Transfer
BTRADE	EAI	Electronic Data Interchange
WinZip		File Compression
OS/390 MVS 2.11		Mainframe Operating System
CICS		Mainframe Operating System
CA Endeavor		Configuration Management
CheckPoint Firewall-1		Firewall Services
IBM RACF		Access Control
Tripwire		Host Intrusion Detection
Router/Hardware Encryption		Encryption
Verisign		Encryption
DES3		Encryption

### Programming Languages

Language	Version
<i>None reported</i>	

### System Interfaces

Direction	System	Data Transfer Method
Bi-directional	CPS	EAI Batch
Bi-directional	DLOS	EAI Batch
Bi-directional	DLSS	EAI Batch
Bi-directional	eMPN	EAI Transactional
Bi-directional	FMS	EAI Transactional
Bi-directional	NSLDS	EAI Batch
Bi-directional	SAIG	EAI Batch & Transactional

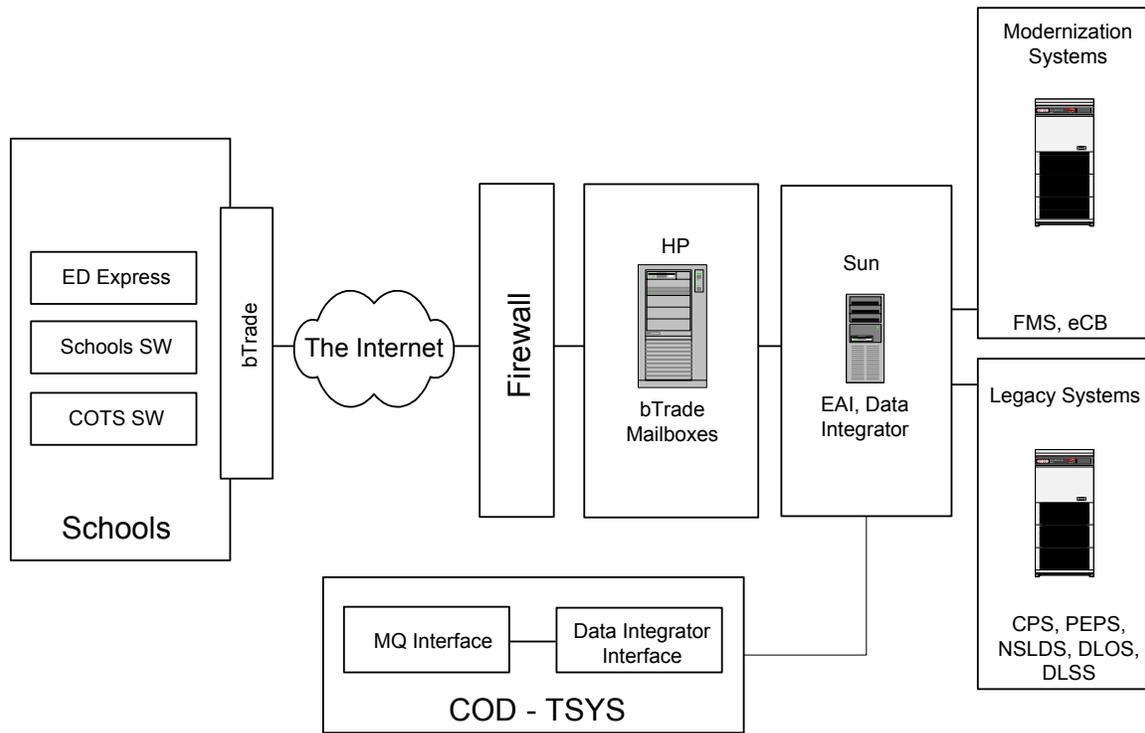
Receive data from

PEPS

Transactional

**Points of Contact**

<b>Role</b>	<b>Contact</b>	<b>Organization</b>	<b>Phone</b>	<b>Email Address</b>
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Operations Service Delivery Manager	Jack Gillotti	CSC	(203) 317-4816	<a href="mailto:jgillott@csc.com">jgillott@csc.com</a>



**Figure 5 – COD Logical Model**

### 3.2.4 *Direct Loan Consolidation System (DLCS)*

*Last updated November 30, 2001*

#### **Description**

DLCS supports the Department of Education’s Federal Direct Loan Program (DL). DLCS allows borrowers to consolidate multiple student loans from multiple sources into one direct loan, funded and serviced by the Department of Education. DLCS provides mechanisms to convert DL and FFELP originated loans into DL loans.

#### **Infrastructure Technologies**

Product	Server	Use
HP-UX 11.0		Server OS
Informix 7.31		Database

## Programming Languages

Language	Version
<i>None reported</i>	

## System Interfaces

Direction	System	Data Transfer Method
<i>None reported</i>		

## Points of Contact

Role	Contact	Organization	Phone	Email Address
FSA Sponsor	Denise Leifeste	FSA	(202) 377-3293	<a href="mailto:denise.leifeste@ed.gov">denise.leifeste@ed.gov</a>

### 3.2.5 Direct Loan Servicing System (DLSS)

*Last updated July 30, 2002*

#### Description

DLSS services direct loans while borrowers are in school, in grace, or in repayment. DLSS receives all booked student loans from DLOS and/or COD, and maintains them for their repayment life. DLSS performs functions including placing the loan into repayment at the proper time, billing the borrower, tracking and posting payments, applying deferments and forbearances, resolving delinquencies, and retiring the loan when paid in full, discharged, or defaulted.

## Infrastructure Technologies

Product	Server	Use
MicroStrategy InfoCenter 6.5		Personalized information portal software
Compaq Alpha Open VMS 7.2		Mainframe OS
Windows 2000 Server		Server OS
Microsoft Windows NT Server 4.0		Server OS
Oracle 7.0		Database
Microsoft SQL Server 7.0		Database
Microsoft SQL Server 2000		Database
Avaya CentreVu CMS		CTI call management software

Intervoice-Brite Write 1

IVR software

Check Point Firewall-1

Firewall Services

## Programming Languages

Language	Version
<i>None reported</i>	

## System Interfaces

Direction	System	Data Transfer Method
<i>None reported</i>		

## Points of Contact

Role	Contact	Organization	Phone	Email Address
FSA Sponsor	Dan Hayward	FSA	(202) 377-3207	<a href="mailto:dan.hayward@ed.gov">dan.hayward@ed.gov</a>

### 3.2.6 *eCampus Based (eCB)*

*Last updated July 30, 2002*

## Description

This initiative modernized the legacy Campus Based System. The storage of data in its legacy form made it very difficult for FSA staff and institutions to access information when they needed it. The electronic Campus Based (eCB) initiative transformed the existing Campus Based from a mainframe to an Oracle based web environment. eCB provides efficient interaction with other FSA systems.

## Infrastructure Technologies

Product	Server	Use
IBM WebSphere Enterprise Edition 3.5.5	SU35E9 SU35E13	Application Server
FSA PIN (Custom Application)		Authentication
Rational ClearCase 4.1	Hosted by the eCB Development contractor, Beacon Technologies	Configuration Management
Oracle 8i 8.1.7	HPV2	Database Management

Verisign 3.0	SU35E10 SU35E12	Encryption
RSA BSAFE Libraries		Encryption
MicroStrategy 7.1.2	SFANT004	End User Data Access
Tripwire	SU35E10 SU35E12 SU35E9 SU35E13 SU22E3 SU22E4 SU35E3 SU35E14	Host Intrusion Detection
IBM Network Dispatcher	SU22E3 SU22E4	Load Balancing
Sun Solaris 2.6	SU35E10 SU35E12 SU35E9 SU35E13 SU22E3 SU22E4	Operating System
Sun Solaris 2.7	SU35E3 SU35E14	Operating System
IBM IHS Server 1.3.12	SU35E10 SU35E12	Web Server
Web Trends		Web Server Monitoring

### Programming Languages

Language	Version
Java	1.2.2 with WAS 3.5.5
PL/SQL	

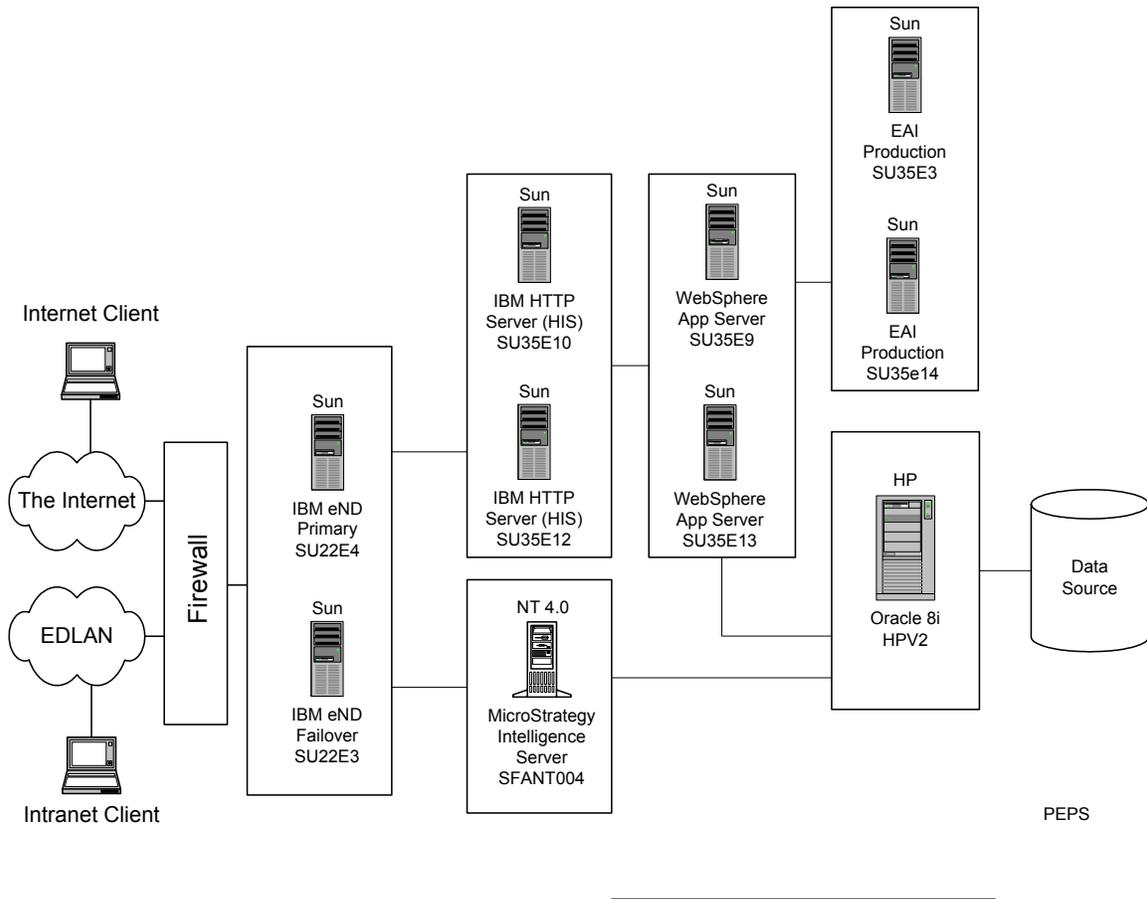
### System Interfaces

Direction	System	Data Transfer Method
Receive data from	PEPS	EAI Batch
Send data to	Customers (Schools)	SMTP
Send data to	FMS	EAI Batch

### Points of Contact

Role	Contact	Organization	Phone	Email Address
FSA Sponsor	Jane Holman	FSA	(202) 377-4322	<a href="mailto:jane.holman@ed.gov">jane.holman@ed.gov</a>

Project Lead	Carrie Marks	Accenture	(202) 962-0791	<a href="mailto:carrie.s.marks@accenture.com">carrie.s.marks@accenture.com</a>
Technical Architect	Alex Lefur	Accenture	(202) 962-0741	<a href="mailto:alex.h.lefur@accenture.com">alex.h.lefur@accenture.com</a>
Application Architect	Rob Shina	Beacon Technologies	(336) 931-1295 X248	<a href="mailto:rshina@beacontec.com">rshina@beacontec.com</a>
Data Architect	Rob Shina	Beacon Technologies	(336) 931-1295 X248	<a href="mailto:rshina@beacontec.com">rshina@beacontec.com</a>
Business Architect	Rob Shina	Beacon Technologies	(336) 931-1295 X248	<a href="mailto:rshina@beacontec.com">rshina@beacontec.com</a>
System Monitoring	VDC	CSC	(203) 317-5051	
Issues & Upgrades	Milton Thomas	FSA	(202) 377-3182	<a href="mailto:milton_thomas@ed.gov">milton_thomas@ed.gov</a>
	Theresa Urban	Indus	(703) 506-6700 x3030	<a href="mailto:theresa.urban@induscorp.com">theresa.urban@induscorp.com</a>
Operations Account Manager	Ray Thomas	CSC	(202) 842-7398 (804) 640-3573	<a href="mailto:rthoma33@csc.com">rthoma33@csc.com</a>
Operations Service Delivery Manager	Gary Adams	CSC	(202) 842-8614	<a href="mailto:gadams2@csc.com">gadams2@csc.com</a>



**Figure 6 – eCampus Based Logical Model**

### 3.2.7 *Electronic Records Management*

*Last updated July30, 2002*

#### **Description**

The Electronic Records Management (ERM) system is used to image, store, and retrieve paper documents by converting them to graphic images.

## Infrastructure Technologies

Product	Server	Use
Microsoft Windows NT 4.0		Operating System
Microsoft SQL Server 7.0		Database Management
Optika Acorde Document Imaging, Workflow, and Collaboration Suite		Document Management
Microsoft Software Management System		Software Management System

## Programming Languages

Language	Version
<i>None reported</i>	

## System Interfaces

Direction	System	Data Transfer Method
<i>None reported</i>		

## Points of Contact

Role	Contact	Organization	Phone	Email Address
FSA Sponsor	Jim Lynch	FSA	(202) 377-3401	<a href="mailto:jim.lynch@ed.gov">jim.lynch@ed.gov</a>
Project Lead	Jiji Alex	Accenture	(703) 947-2145	<a href="mailto:jiji.alex@accenture.com">jiji.alex@accenture.com</a>
Technical Architect	Jiji Alex	Accenture	(703) 947-2145	<a href="mailto:jiji.alex@accenture.com">jiji.alex@accenture.com</a>
Application Architect	Denise Merchant	FSA	(202) 377-3523	<a href="mailto:denise.merchant@ed.gov">denise.merchant@ed.gov</a>
Data Architect	Len Matheny	ECMC	(551) 221-4066	<a href="mailto:len.matheny@ecmc.org">len.matheny@ecmc.org</a>
Business Architect	Jiji Alex	Accenture	(703) 947-2145	<a href="mailto:jiji.alex@accenture.com">jiji.alex@accenture.com</a>
System Monitoring	Len Matheny	ECMC	(651) 221-4066	<a href="mailto:len.matheny@ecmc.org">len.matheny@ecmc.org</a>
Issues & Upgrades	Len Matheny	ECMC	(651) 221-4066	<a href="mailto:len.matheny@ecmc.org">len.matheny@ecmc.org</a>
Operations Account Manager	Len Matheny	ECMC	(651) 221-4066	<a href="mailto:len.matheny@ecmc.org">len.matheny@ecmc.org</a>
Operations Service Delivery Manager	Len Matheny	ECMC	(651) 221-4066	<a href="mailto:len.matheny@ecmc.org">len.matheny@ecmc.org</a>

### **3.2.8 Federal Family Education Loan (FFEL)**

*Last updated July 30, 2002*

#### **Description**

Federal Family Education Loan (FFEL) provides program management, payment of federal reinsurance on defaulted loan claims submitted by guaranty agencies (GA), and collections on defaulted loans by GAs. FFEL supports the collection process for federally guaranteed loans: receives defaulted loan data from GAs; interfaces with external systems, agencies and contractors for skip tracing; produces dunning notices; provides on-line support for collection agents; interfaces with private collection agencies; sets up loan repayment schedules; produces loan payment notices; and tracks receipts.

#### **Infrastructure Technologies**

<b>Product</b>	<b>Server</b>	<b>Use</b>
Oracle 8i 8.0.5		Database
IBM MQSeries AMI 1.2.1		FSA EAI application messaging standard
Oracle Financials 11.0.3		Accounting and financial management application suite
Check Point Firewall-1		Firewall Services
Tripwire 2.4		Host Intrusion Detection

#### **Programming Languages**

<b>Language</b>	<b>Version</b>
<i>None reported</i>	

#### **System Interfaces**

<b>Direction</b>	<b>System</b>	<b>Data Transfer Method</b>
<i>None reported</i>		

### Points of Contact

Role	Contact	Organization	Phone	Email Address
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Operations Service Delivery Manager	Jack Gillotti	CSC	(203) 317-4816	<a href="mailto:jgillott@csc.com">jgillott@csc.com</a>

### 3.2.9 Financial Management Systems (FMS)

*Last updated July 30, 2002*

#### Description

FMS, an Oracle Federal Financials Application (Release 11.0.3) System, serves as the centralized financial accounting system. It manages the flow of all financial information for FSA. FMS facilitates the FSA transformation by giving the CFO the ability to report information across loan and grant programs, consolidate redundant processes, and account for FSA Title IV funds. Phase III of FMS was fully implemented on September 30, 2001 and incorporated core accounting for Direct Loan, Campus Based, Pell, and Debt Collection Services. Phase IV includes integration with the Common Origination and Disbursement (COD) system, which was implemented in April 2002. Phase IV will also implement the Accounts Receivable module as part of the Lender Redesign effort planned for October 2002.

#### Infrastructure Technologies

Product	Server	Use
Oracle Application Server 3.0.2	HPL10 HPL11	Application Server
Rational ClearCase 4.1 (Web Version)	Desktops	Configuration Management
Rational ClearQuest 2001 4.0	Desktops	Configuration Management
Oracle 8i 8.1.7	HPV2	Database Management
BTRADE (Planned for Phase IV)	HPL10	Electronic Data Interchange
Compress	HPL10	File Compression
FTP	HPL10	File Transfer
CommerceQuest Data Integrator 4.0.1	HPL10	File Transfer

Oracle Financials Rel 11.0.3	HPV2	Financial Accounting
Tripwire	HPL10 HPL11 HPV2	Host Intrusion Detection
HP Service Guard	HPV2	Failover Software
HP/UX 11.0	HPL10 HPL11 HPV2	Operating System
Hewlett Packard OpenView	HPL10 HPL11 HPV2	Operations Management (Network Monitoring)
Citrix (Internal project team uses this to get to EDNet for remote EDNet email only)	Dept of Ed - ROB3 server(s)	Remote Access Services
CheckPoint VPN-1	HPL10	Virtual Private Network

### Programming Languages

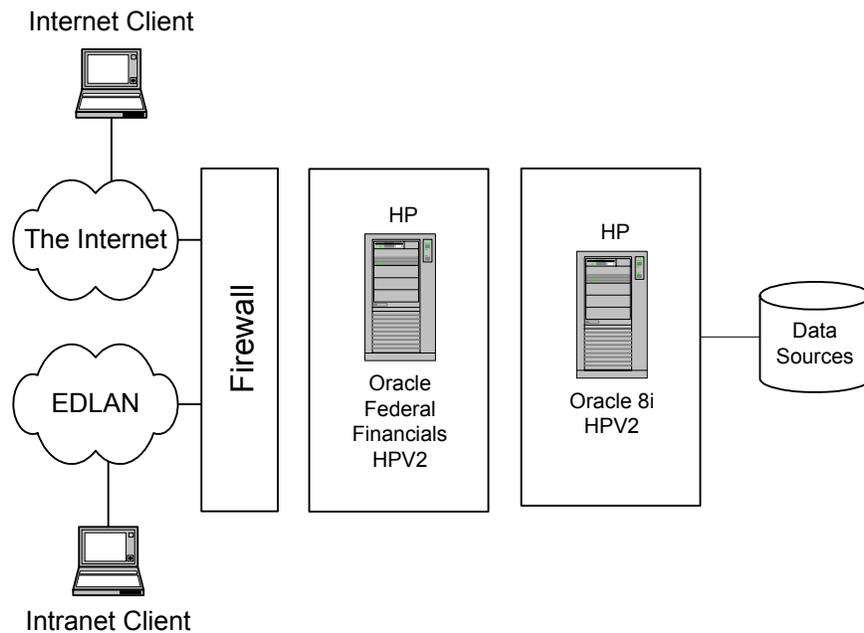
Language	Version
PL/SQL	Oracle 8.0.4

### System Interfaces

Direction	System	Data Transfer Method
Bi-directional	DLSS	FTP
Bi-directional	ECB	EAI Batch & Transactional
Bi-directional	FFEL	Direct On-line Entry File Transfer
Bi-directional	FMSS	Database Link
Bi-directional	PELL	FTP
Bi-directional	Accounts Receivable (Planned 6/02)	EAI Direct On-line Entry
Receive data from	COD	EAI Batch
Receive data from	DLCS	FTP
Receive data from	LEAPP/SLEAPP Guaranty Agencies (GAs)	Direct on-line Entry
Receive data from	Lenders (Planned 10/02)	Direct on-line Entry
Send data to	Credit Management Data Mart	Database Link

**Points of Contact**

Role	Contact	Organization	Phone	Email Address
FSA Sponsor	Paul Stonner	FSA CFO	(202) 377-3494	<a href="mailto:paul.stonner@ed.gov">paul.stonner@ed.gov</a>
Project Lead	Todd Elliott	Accenture	(202) 962-0679	<a href="mailto:todd.b.elliott@accenture.com">todd.b.elliott@accenture.com</a>
Technical Architect	Jeff Ross	Accenture	(202) 962-0687	<a href="mailto:jeffrey.n.ross@accenture.com">jeffrey.n.ross@accenture.com</a>
Application Architect	Brian McCann	Oracle Corp	(202) 377-3026	<a href="mailto:brian.mccann@ed.gov">brian.mccann@ed.gov</a>
Data Architect	Amy Gillani	EDS	(202) 962-0658	<a href="mailto:amyn.gillani@ed.gov">amyn.gillani@ed.gov</a>
Business Architect	Jen Alden	Accenture	(202) 962-0682	<a href="mailto:jennifer.a.alden@accenture.com">jennifer.a.alden@accenture.com</a>
System Monitoring	VDC Cmd Ctr Marcus Daughtry	CSC EDS	(203) 317-5051 (202) 962-0691	<a href="mailto:marcus.daughtry@ed.gov">marcus.daughtry@ed.gov</a>
Issues & Upgrades	Jeff Ross	Accenture	(202) 962-0687	<a href="mailto:jeffrey.n.ross@accenture.com">jeffrey.n.ross@accenture.com</a>
Operations Account Manager	Jennifer Hance	CSC	(202) 842-7399	<a href="mailto:jhance@csc.com">jhance@csc.com</a>
Operations Service Delivery Manager	Mike Healy	CSC	(703) 338-7345	<a href="mailto:mhealy1@csc.com">mhealy1@csc.com</a>



**Figure 7 – FMS Logical Model**

### **3.2.10 National Student Loan Database System (NSLDS)**

*Last updated July 30, 2002*

#### **Description**

NSLDS centralizes all Title IV student aid data obtained from schools, guaranty agencies, and many internal FSA systems. The first stage of the modernization effort in FY01 was to find ways to improve customer service delivery and the processes and techniques around NSLDS without significant technology change. The current production system is known as “NSLDS Mad Dog”.

In the next phase, FSA has undertaken the restructuring of the data housed in the database into an application neutral enterprise warehouse structure. The goals for this effort, NSLDS II, are to increase customer service, reduce costs and improve data quality.

#### **Infrastructure Technologies**

<b>Product</b>	<b>Server</b>	<b>Use</b>
Microsoft IIS 4.0		Web Server
OS/390 2.8		Mainframe OS
IBM CICS 2		Application server
Microsoft Windows NT Server 4.0		Server OS
IBM DB2 5.1		Database
IBM MQSeries Messaging 5.2		FSA EAI interface transport layer
IBM RACF 2.2		Security authentication and access authority component

#### **Programming Languages**

<b>Language</b>	<b>Version</b>
<i>None reported</i>	

#### **System Interfaces**

<b>Direction</b>	<b>System</b>	<b>Data Transfer Method</b>
Bi-directional	CPS	Electronic File via EAI
Bi-directional	PEPS	Electronic File via EAI
Bi-directional	DLSS	Electronic File via EAI
Receive data from	DCS	Tape

Receive data from	COD	Electronic File via EAI
Bi-directional	FMS	Electronic File via EAI
Bi-directional	Ombudsman	Electronic File via EAI
Receive data from	TPD (System in Development)	Electronic File via EAI
Bi-directional	SAIG	Electronic File through SAIG and EAI
Bi-directional	FP Datamart	Electronic File via EAI
Bi-directional	Schools/Service/ers/Clearinghouse	Electronic File through SAIG and EAI and Tape
Bi-directional	Guaranty Agencies	Electronic File through SAIG and Tape

### Points of Contact

Role	Contact	Organization	Phone	Email Address
FSA Sponsor	Mike Fillinich	FSA	(202) 377-3056	<a href="mailto:mike.fillinich@ed.gov">mike.fillinich@ed.gov</a>
Project Lead	John Zoldan	Accenture	(202) 962-0635	<a href="mailto:john.w.zoldan@accenture.com">john.w.zoldan@accenture.com</a>
Technical Architect	Terry Helwig	Accenture	(202) 962-0880	<a href="mailto:terry.helwig@accenture.com">terry.helwig@accenture.com</a>
Application Architect	Nathan (Nate) Brown	Accenture	(202) 962-0868	<a href="mailto:nathan.r.brown@accenture.com">nathan.r.brown@accenture.com</a>
Operations Account Manager	Jerry Ryznar	CSC	(202) 842-7397 (240) 463-1934	<a href="mailto:gryznar@csc.com">gryznar@csc.com</a>
Operations Service Delivery Manager	Gary Adams	CSC	(202) 842-8614	<a href="mailto:gadams2@csc.com">gadams2@csc.com</a>

### ***3.2.11 Post-secondary Education Participants System (PEPS)***

*Last updated July 30, 2002*

#### **Description**

Postsecondary Education Participants Systems (PEPS) provides consistent and reliable data and flexible reporting on post-secondary institutions, accrediting bodies, state licensing agencies, lenders, guarantors, and servicers for a large number of users with diverse business needs. On-line users include FSA, OPE, OIG, GAO, all FFEL guarantors, regional and national accreditors, and state licensing agencies. Off-line users of the web site include schools, lenders, servicers, state governments, and the general public looking for eligibility and certification status of schools.

The PEPS impact on the business of FSA is both ‘high’ and ‘critical’ since all of FSA, both regional and headquarters, keeps its eligibility, certification, and oversight information in PEPS.

The PEPS impact on other Title IV delivery systems and education community systems is both ‘high’ and ‘critical’. PEPS is the “official” system of record for pertinent information about postsecondary institutions. PEPS provides a Daily File of data of data about postsecondary institutions to the Title IV Delivery Systems. This file is used to determine which schools are eligible to participate in Title IV. PEPS provides the Financial Partners' data mart with the information they need on postsecondary institutions. PEPS provides ED’s OCFO with school, lender, and guarantor audit and program review information on a weekly basis. PEPS provides a downloadable, extensive school file on the PEPS web site, which lenders, schools, guarantors, state governments, and servicers actually download into their systems. State governments use PEPS data to assist in determining eligibility for the 529 College Savings Plan.

PEPS’ impact on the higher education community and on other ED nationwide is critical. PEPS is also critical to both international and domestic schools, since it provides the web application which all of them must use to transmit their data used to apply for eligibility and certification and to make updates to ED.

Business is seriously disrupted if PEPS goes down for more than a short while, given the data PEPS collects from postsecondary institutions worldwide and the data it provides to the education community nationwide.

Some major functions include:

- Provides data on postsecondary institutions, to include eligibility, certification for various Title IV programs, locations of instruction and courses offered;
- Provides both domestic and foreign institutions with a web application to use to send new data to ED, update existing data, or send data for recertification to ED.
- Provides FSA staff with a Reviewer Area to review and accept or reject the data received from domestic and foreign institutions via the web application. Accepted data is posted to the PEPS database;
- Provides institutional reviewer data;
- Supports twice yearly default rate calculations for FFEL and Direct Loan schools, as well as FFEL lenders and guarantors. Chooses the ramifications of three years’ worth of rates, selecting the correct letter to be sent to the schools, and providing notification to the schools. Provides the Secretary of Education’s press package regarding national default rates;
- Logs hardware/software problem calls from PEPS users and forwards them to the appropriate area of response;

- Provides program review data on schools, lenders, and guaranty agencies;
- Provides technical assistance data concerning schools;
- Provides Direct Loan School participation information;
- Provides Distance Learning information;
- Provides internal FSA staff with a place to record ‘pre-finalization of review findings’ discussions;
- Provides audit data on schools, lenders, and guarantee agencies (including interface to Dept. of ED OCFO)
- Provides closure information concerning schools;
- Provides Administrative Actions and Appeals data concerning schools;
- Provides an extensive on-line query ability for on-line users, which includes the ability of users to download these queries into extracts and create their own reports;
- Runs SQL queries for the FSA community (internal and external)
- Monitors and records GA and lender servicer participation;
- Provide audit and program review data on lenders and guarantee agencies via interface to Dept of ED OCFO;
- Allows guarantors to enter data concerning lender and school reviews, and to view ED’s reviews of those same entities;
- Assigns OPEID’s as well as program id’s to all schools;
- Keeps crosswalk of all id’s known to have been used by each school;

### Infrastructure Technologies

Product	Server	Use
Hummingbird Xceed	ELIGCERT HPK2	Emulation
Microsoft Exchange	WDCROBEXC01	Mail Server
Oracle 8i/8.05	HPK2	Database Management
Oracle Application Server	WDCROBORA05 AWAATL01 AWABOS01 AWACHI01 AWADAL01 AWADEN01 AWAKAN01 AWAPHI01 AWASAN01 AWASEA01	Application Server
Microsoft IIS	STANT012 STANT024	Web Server
Web Trends	STANT012 STANT024	Web Server Monitoring
MQ Series Server 5.2	HPK2	Middleware
Citrix	Citrix Server	Remote Access Services
HP/UX 10.20	HPK2	Operating System
Microsoft Windows NT	SFANT012 SFANT024	Operating System
Starbase	CBMI Developer Site	Configuration Management
CA TNG	HPK2	Operations Management
CA UniCenter	HPK2	Authentication
Oracle	HPK2	Authentication Database Security Services
Router/Hardware Encryption	HPK2	Encryption

### Programming Languages

Language	Version
PL/SQL	8.0.5.2.1

### System Interfaces

Direction	System	Method
Send data to	CMO/DMAD	FTP
Send data to	COD	EAI bus
Send data to	DLLO	FTP
Send data to	ECB	EAI bus
Send data to	FPDM	FTP
Send data to	NSLDS	FTP
Send data to	OCFO	FTP
Send data to	PEPS web site at ed.gov	File Upload
Send data to	RFMS	FTP

### Points of Contact

Role	Contact	Organization	Phone	Email Address
FSA Sponsor	Rana O'Brien	FSA, PEPS	(202) 377-4312	<a href="mailto:rana.o'brien@ed.gov">rana.o'brien@ed.gov</a>
System Monitoring	Sam DeJong	FSA, PEPS	(202) 377-4321	<a href="mailto:samuel.dejong@ed.gov">samuel.dejong@ed.gov</a>
	Randy Mongold	FSA, PEPS	(202) 377-4320	<a href="mailto:randy.mongold@ed.gov">randy.mongold@ed.gov</a>
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	Randy Mongold	FSA, PEPS	(202) 377-4320	<a href="mailto:randy.mongold@ed.gov">randy.mongold@ed.gov</a>
Operations Account Manager	Jerry Ryznar	CSC	(202) 842-7397 (240) 463-1934	<a href="mailto:gryznar@csc.com">gryznar@csc.com</a>
Operations Service Delivery Manager	Jack Gillotti	CSC	(203) 317-4816	<a href="mailto:jgillott@csc.com">jgillott@csc.com</a>

### **3.3 Middleware & Integration Applications**

#### **3.3.1 Enterprise Application Integration (EAI)**

*Last updated July 30, 2002*

#### **Description**

The EAI Core Architecture effort consists of the design and implementation of the MQSeries integration architecture for the Department of Education, Office of Federal Student Aid (FSA).

Collectively, the implementation of the EAI components and architecture is referred to as the EAI Bus. The EAI components provide the core architecture to enable FSA applications to utilize a common, reusable infrastructure for connecting disparate, heterogeneous systems. The EAI core architecture provides the EAI components and services to connect the FSA Internet Domain and nine FSA legacy systems to the EAI bus. Middleware communications are provided by MQSeries Messaging, transformation and routing is provided by MQSeries Integrator, and application connectivity is provided by custom EAI adapters.

#### **Infrastructure Technologies**

<b>Product</b>	<b>Server</b>	<b>Use</b>
Sun Solaris 7		Operating System
Microsoft Windows NT Server 4.0		Operating System
Sun Java Development Kit 1.3 (required for AMI)		Application messaging interface adapters
IBM MQSeries Messaging 2.2.1.1		FSA EAI middleware comm. standard for OpenVMS
IBM MQSeries Messaging 5.2		FSA EAI middleware comm. standard for many platforms
IBM MQSeries Messaging 5.1		FSA EAI MQSI Configuration Manager deployment middleware comm. standard for NT 4.0
IBM MQSeries AMI 1.2.1		FSA EAI application messaging interface standard
IBM MQSeries Integrator 2.01		FSA EAI message transformation and routing
CommerceQuest Data Integrator 4.2.4		Data transfer service (100+ MB)
IBM DB2 6.1 (bundled with MQSI)		Database

## Programming Languages

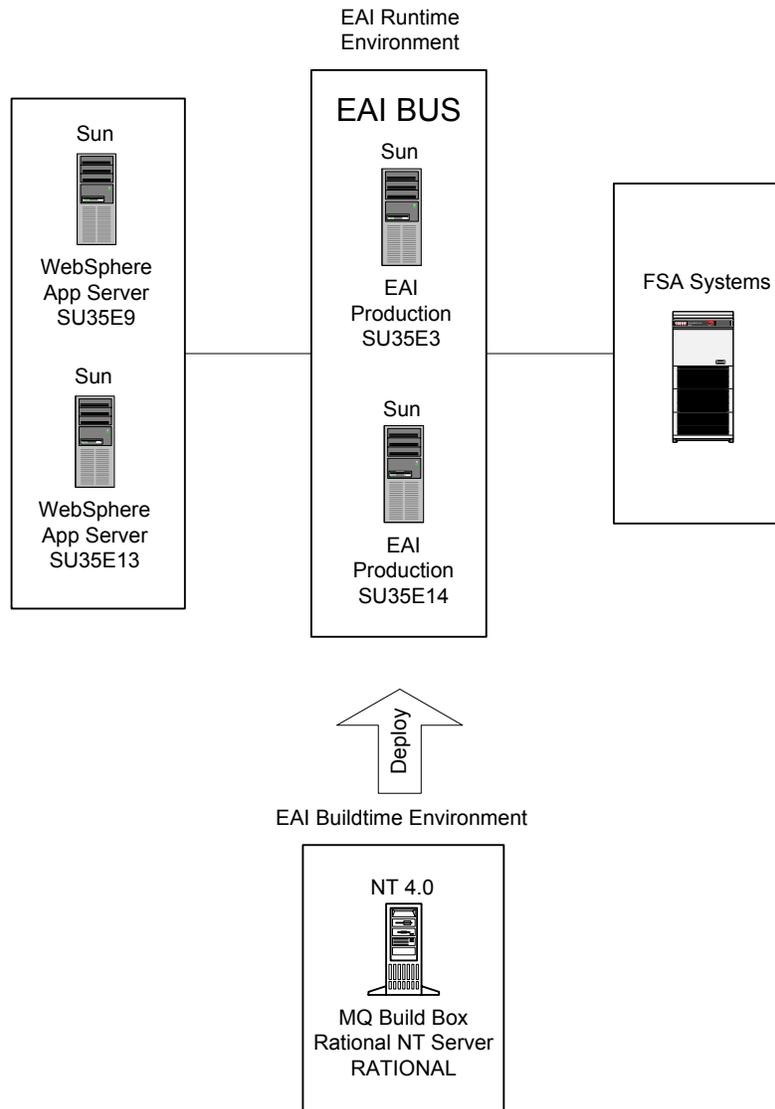
Language	Version
Java	1.3.1

## System Interfaces

Direction	System	Data Transfer Method
Bi-directional	DLSS	EAI
Bi-directional	CPS	EAI
Bi-directional	NSLDS	EAI
Bi-directional	SAIG	EAI
Bi-directional	FMS	EAI
Bi-directional	eServicing	EAI
Bi-directional	eMPN	EAI
Bi-directional	PEPS	EAI
Bi-directional	eCB	EAI
Bi-directional	CMDM	EAI
Bi-directional	COD	EAI
Bi-directional	FP Data Mart	EAI

## Points of Contact

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**Figure 8 – EAI Logical Model**

### **3.3.2 FSA Intranet**

*Last updated April 30, 2002*

#### **Description**

The FSA Intranet provides FSA staff with internal documentation and enterprise wide information. The site is made up of the following core components:

- *Employee Services* – Information regarding Life at Work, News & Events, Travel, Administration, My Commute.

- *Career Zone* – FSA’s employee development center. It’s a resource for all FSA staff to access learning and career development services.
- *FSA University* – Provides business learning services to support FSA employees and partners.
- *FSA Communications* – Provides Press Releases, announcements, and publications
- *Students Channel* – Provides information relating to the Students Channel
- *Schools Channel* – Provides information, tools, and news relating to the Schools Channel
- *Financial Partners* – Provides information and contacts for all Financial Partners
- *Ombudsman* – Provides information on policy, reports, forms and letters
- *CFO* – Provides information relating to purchasing, administration, financial management, and training
- *CIO* – Provides information on CIO related activities such as IT Services Report, Vision/Mission, IT Security, People Library, IRB Activities, Career Planning, Giga Group, and etc.
- *Analysis* – Provides analysis and performance metrics on the enterprise
- *Human Resources* – HR related information and links
- *Acquisitions* – Information regarding acquisitions and contract performance

These core components of the FSA Intranet are run from the Virtual Data Center (VDC) in Meriden, Connecticut. Computer Sciences Corporation (CSC) staff are responsible for the operation, maintenance, and security of this system from a hardware and operating system perspective, with the support of ROH staff for application administration and maintenance.

### Infrastructure Technologies

Product	Server	Use
IBM WebSphere Enterprise Edition v3.5.3	SU35E9 SU35E13	Application Server
Interwoven Teamsite v5.0	SU35E1	Content Management
Interwoven OpenDeploy v5.0	SU35E1	Content Management
Oracle 8i 8.1.7	HPV2	Database Management System
Autonomy Knowledge Suite v3.1	SU35E7 SU35E15	Knowledge Management Search Engine
Sendmail	SU35E9 .....	Mail Server

	SU35E13	
HP/UX 11.0	HPV2	Operating System
Sun Solaris v2.6	SU35E1 SU22E3 SU22E4 SU35E7 SU35E9 SU35E10 SU35E12 SU35E13 SU35E15	Operating System
IBM IHS Server v1.3.12	SU35E10 SU35E12	Web Server
Web Trends		Web Server Monitor

### Programming Languages

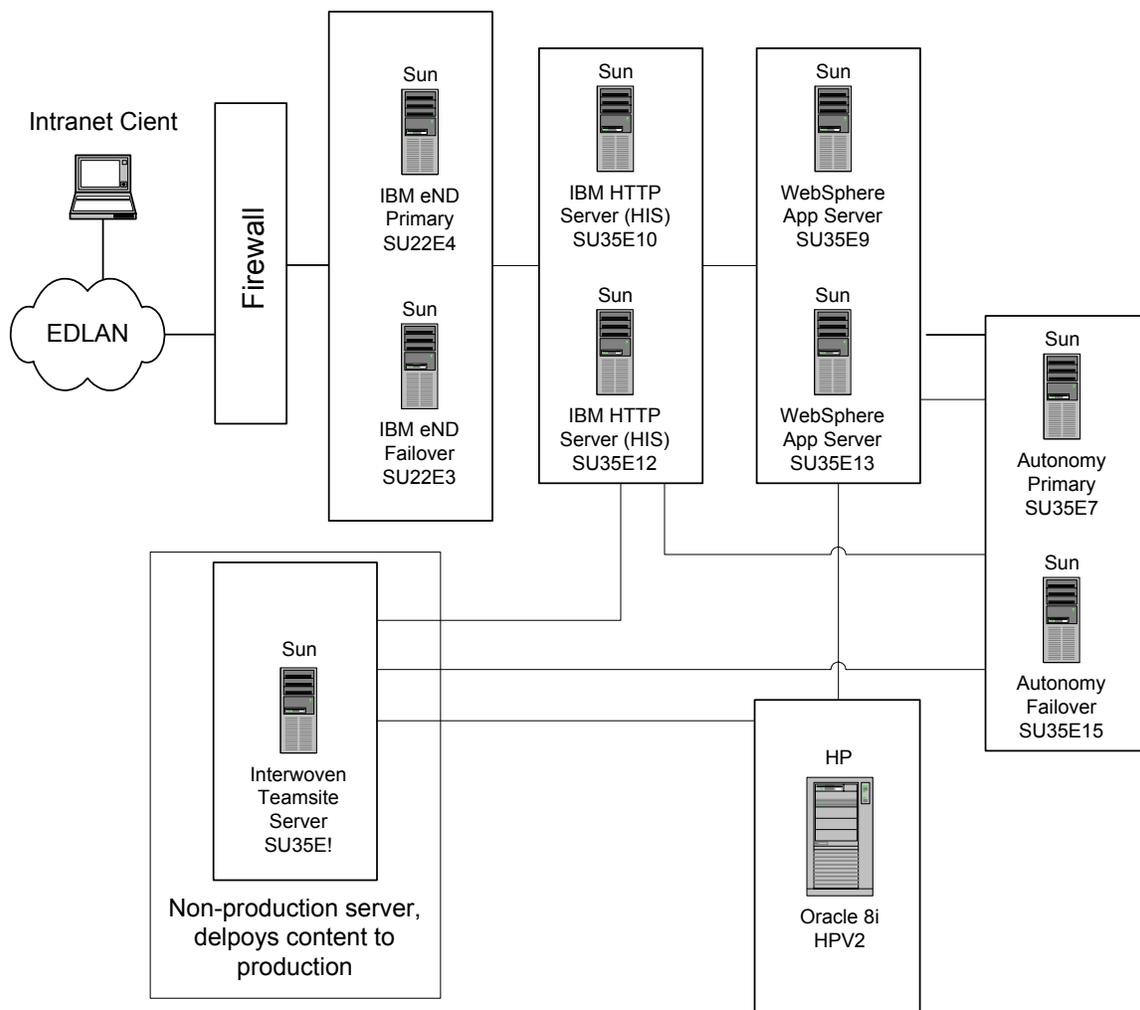
Language	Version
Java	1.2.2

### System Interfaces

Direction	System	Data Transfer Method
Bi-directional	COD	EAI Bus/Adapter/Connector API
Bi-directional	CPS	EA Client
Bi-directional	Direct Loan (EDS)	EA Client
Bi-directional	DLQRPT(ACS Gov Solutions)	EA Client
Bi-directional	FISAP (UAL)	EA Client
Bi-directional	NSLDS	EA Client
Bi-directional	RFMS	EA Client

### Points of Contact

Role	Contact	Organization	Phone	Email Address
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Operations Account Manager	Jerry Ryznar	CSC	(202) 842-7397 (240) 463-1934	<a href="mailto:gryznar@csc.com">gryznar@csc.com</a>
Operations Service Delivery Manager	Dave Lass	CSC	(203) 317-5037	



**Figure 9 – FSA Intranet Logical Model**

### 3.3.3 *Student Aid Internet Gateway*

*Last updated July 30, 2002*

#### **Description**

The Student Aid Internet Gateway (SAIG) Portal provides telecommunications support for the delivery and administration of Title IV programs via the Internet. The U.S. Department of Education (ED), and its modernization partners Accenture and NCS Pearson, are sponsoring the SAIG Portal to promote the electronic exchange of Title IV information between educational and others over the internet.

SAIG Portal is composed of a HP-UX mid tier server that supports the mailboxing system and a Microsoft Windows NT/IIS server running a web administration application. Supplementary

systems include mainframe, enrollment web application, and PC systems. The SAIG Portal is a Commercial Off-the-Shelf (COTS) application from bTrade.com and is made up of the following components:

- *Secure Portal* – An open architecture gateway that will be used as the ‘mailbox’ application for the storing and retrieval of data.
- *EasyAccess* - The client software used to send and receive FSA data transmissions securely over the internet using SSL 3.0 and the Diffie-Hellman Dynamic Key Exchange algorithm.
- *SecureManager* - Product that will be used to manage Title IV destination point mailboxes and data. This is referred to as TDCCommunity Manager or Online Secure Manager (OSM).

These components of the SAIG Portal are run from the Virtual Data Center (VDC) in Meriden, Connecticut. Computer Sciences Corporation (CSC) staff are responsible for the operation, maintenance, and security of this system with the support of Accenture and NCS Pearson staff for application administration and maintenance.

Substantial cost savings to FSA is achieved by moving FSA data transmissions to the internet. The SAIG Portal provides FSA with a non-intrusive solution for customers, reduces the overall cost of delivering student aid, and reduces operating costs by consolidating operations and systems. FSA to the Internet went live on September 20, 2001.

SAIG is critical to FSA and the Title IV programs because it provides the infrastructure for transferring data and messages. If the system is down or experiencing performance decreases for extended periods of time the exchange of critical data would be impacted and detrimental to the grant and loan processes on which schools and students depend.

### **Infrastructure Technologies**

<b>Product</b>	<b>Server</b>	<b>Use</b>
Oracle Database v8.1.7	HPL16	Database Management
Oracle Application Server	SFANT014	Application Server
JRun v3.0	SFANT014	Application Server
MQ Series Server v5.2	HPL16	Middleware
BTrade EAclient API	HPL16	File Transfer
BTrade (Edconnect & Eaclient)		Electronic Data Interchange
Compress		File Compression
HP/UX v11.0	HPL16	Operating System
Microsoft Windows NT v4.0	SFANT014	Operating System

Java Development Kit v1.3	SFANT014	Programming Tools
PVCS Tracker		Configuration Management
CA TNG	HPL16	Operations Management
Cisco Local Director	HPL16 HPN9	Load Balancing
HP Service Guard	HPL16 HPN9	Failover Software
CA TNG	HPL16 SFANT014	Access Control
Tripwire (Windows NT)	SFANT014	Host Intrusion Detection
Norton Antivirus	SFANT014	Virus Detection

### Programming Languages

Language	Version
<i>None reported</i>	

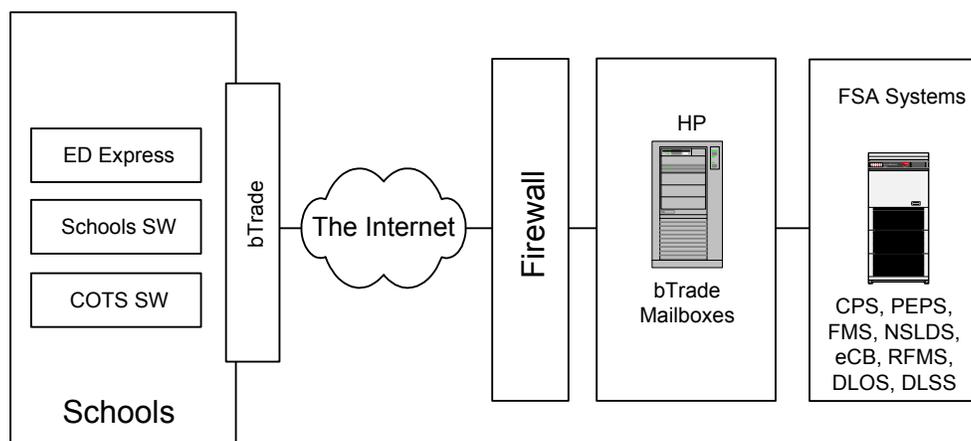
### System Interfaces

Direction	System	Data Transfer Method
Bi-directional	CPS	Batch
Bi-directional	DLOS	Batch
Bi-directional	DLSS	Batch
Bi-directional	eCB	Batch
Bi-directional	FMS	Batch
Bi-directional	NSLDS	Batch
Bi-directional	PEPS	Batch
Bi-directional	RFMS	Batch

### Points of Contact

Role	Contact	Organization	Phone	Email Address
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Project Manager	Colleen Ward	Accenture	(703) 947-2980	<a href="mailto:colleen.m.ward@accenture.com">colleen.m.ward@accenture.com</a>
Project Lead	Deb Sheets	NCS Pearson	(319) 665-7882	<a href="mailto:deb_sheets@ncs.com">deb_sheets@ncs.com</a>
Technical Architect	Jamie Steapp	NCS Pearson	(319) 339-7987	<a href="mailto:steaja@ncs.com">steaja@ncs.com</a>

Application Architect	Jim Taylor	BTrade		<a href="mailto:jtaylor@btrade.com">jtaylor@btrade.com</a>
Data Architect	Steve Johnson	NCS Pearson	(319) 665-7874	<a href="mailto:johnst@ncs.com">johnst@ncs.com</a>
System Monitoring	Paul Izzo	CSC	(203) 317-5051	<a href="mailto:pizzo@csc.com">pizzo@csc.com</a>
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**Figure 10 – Student Aid Internet Gateway Logical Model**

## 3.4 Portal Applications

### 3.4.1 DLSS Web Site

*Last updated July 30, 2002*

#### **Description**

The DLSS Web infrastructure is composed of four separate Web sites (Direct Loan Student Site, Direct Loan Schools site, Customer Service Representative(CSR) Access site, and FSA site). The Direct Loan Student Web site provides a comprehensive set of self service functions including demographic information management, loan document and status information, electronic bills/correspondence, electronic payment, and account management. The Direct Loan School Web site provides 3 separate services for Direct Loan Schools (Reporting to deliver delinquent student data to schools to assist them in managing the Direct Loan Program participation, Subscription services for Portfolio Reporting, and SAIG Report Delivery) from the Direct Loan Data Mart. The CSR Access site provides a read only version of the Direct Loan

Student Web site for the Direct Loan Servicing Centers in Utica, NY and Bakersfield, CA. The FSA site provides a set of control functions for managing components of the other sites such as creation and publishing of surveys, releasing monthly data access to the Direct Loan Data Mart, and Security Access by function.

### Infrastructure Technologies

Product	Server	Use
Microsoft Windows 2000 Server	DLSSWEBPRD1 (ACS GS RKV) DLSSWEBPRD2 (ACS GS RKV) DLSSDBPRD1 (ACS GS RKV) DLSSDBPRD2 (ACS GS RKV) DLSSEMAILPRD1 (ACS GS RKV) DLSSEMAILPRD2 (ACS GS RKV) MSTRWEBPRD (ACS GS RKV) MSTRINTPRD (ACS GS RKV) MSTRNARPRD (ACS GS RKV) DLSSDEMO (ACS GS RKV) DLSSINTERSYS (ACS GS RKV)	Operating System
Microsoft IIS 5.0	DLSSWEBPRD1 (ACS GS RKV) DLSSWEBPRD2 (ACS GS RKV) DLSSDEMO (ACS GS RKV) DLSSINTERSYS (ACS GS RKV)	Web Server
Microsoft Windows NT 4.0 Server	EDOCWEBPRD1 (ACS GS RKV) EDOCWEBPRD2 (ACS GS RKV) EDOCAPPPRD1 (ACS GS RKV) EDOCAPPPRD2 (ACS GS RKV)	Operating System
Microsoft SMTP	DLSSWEBPRD1 (ACS GS RKV) DLSSWEBPRD2 (ACS GS RKV) EDOCWEBPRD1 (ACS GS RKV) EDOCWEBPRD2 (ACS GS RKV) EDOCAPPPRD1 (ACS GS RKV) EDOCAPPPRD2 (ACS GS RKV) DLSSDEMO (ACS GS RKV) DLSSINTERSYS (ACS GS RKV)	Mail Server
Microsoft XML Parser 3.0	DLSSWEBPRD1 (ACS GS RKV) DLSSWEBPRD2 (ACS GS RKV) DLSSDBPRD1 (ACS GS RKV) DLSSDBPRD2 (ACS GS RKV) EDOCWEBPRD1 (ACS GS RKV) EDOCWEBPRD2 (ACS GS RKV) EDOCAPPPRD1 (ACS GS RKV) EDOCAPPPRD2 (ACS GS RKV) DLSSDEMO (ACS GS RKV) DLSSINTERSYS (ACS GS RKV)	
Microsoft Visual Basic	DLSSWEBPRD1 (ACS GS RKV) DLSSWEBPRD2 (ACS GS RKV) EDOCWEBPRD1 (ACS GS RKV) EDOCWEBPRD2 (ACS GS RKV) EDOCAPPPRD1 (ACS GS RKV) EDOCAPPPRD2 (ACS GS RKV) DLSSDEMO (ACS GS RKV) DLSSINTERSYS (ACS GS RKV)	Programming Tools

Microsoft COM+	DLSSWEBPRD1 (ACS GS RKV) DLSSWEBPRD2 (ACS GS RKV) EDOCSAPPPRD1 (ACS GS RKV) EDOCSAPPPRD2 (ACS GS RKV) DLSSDEMO (ACS GS RKV) DLSSINTERSYS (ACS GS RKV) EDOCSWEBPRD1 (ACS GS RKV) EDOCSWEBPRD2 (ACS GS RKV)	
DLSS Custom Web Code	DLSSWEBPRD1 (ACS GS RKV) DLSSWEBPRD2 (ACS GS RKV) EDOCSWEBPRD1 (ACS GS RKV) EDOCSWEBPRD2 (ACS GS RKV) EDOCSAPPPRD1 (ACS GS RKV) EDOCSAPPPRD2 (ACS GS RKV) DLSSDEMO (ACS GS RKV) DLSSINTERSYS (ACS GS RKV)	
Compaq TP Web Connector 2.1	DLSSWEBPRD1 (ACS GS RKV) DLSSWEBPRD2 (ACS GS RKV) DLSSDEMO (ACS GS RKV) DLSSINTERSYS (ACS GS RKV) DLSSDBPRD1 (ACS GS RKV) DLSSDBPRD2 (ACS GS RKV)	
Oracle 8i Client	DLSSWEBPRD1 (ACS GS RKV) DLSSWEBPRD2 (ACS GS RKV) MSTRINTPRD (ACS GS RKV) DLSSDEMO (ACS GS RKV) DLSSINTERSYS (ACS GS RKV)	
BrowserHawk 5.0 Enterprise	DLSSWEBPRD1 (ACS GS RKV) DLSSWEBPRD2 (ACS GS RKV) DLSSDEMO (ACS GS RKV) DLSSINTERSYS (ACS GS RKV)	
Veritas Net Backup	DLSSWEBPRD1 (ACS GS RKV) DLSSWEBPRD2 (ACS GS RKV) DLSSDBPRD1 (ACS GS RKV) DLSSDBPRD2 (ACS GS RKV) DLSSEMAILPRD1 (ACS GS RKV) DLSSEMAILPRD2 (ACS GS RKV) EDOCSWEBPRD1 (ACS GS RKV) EDOCSWEBPRD2 (ACS GS RKV) EDOCSAPPPRD1 (ACS GS RKV) EDOCSAPPPRD2 (ACS GS RKV) DLSSDEMO (ACS GS RKV) DLSSINTERSYS (ACS GS RKV)	DLSS Web Site Node1 DLSS Web Site Node2
Microsoft SQL Server 2000	DLSSDBPRD1 (ACS GS RKV) DLSSDBPRD2 (ACS GS RKV) DLSSDEMO (ACS GS RKV) DLSSINTERSYS (ACS GS RKV)	Database Management System
Microsoft FTP	DLSSDBPRD1 (ACS GS RKV) DLSSDBPRD2 (ACS GS RKV)	File Transfer
Content Technologies MailSweeper SMTP Mail SecretSweeper Encryption	DLSSEMAILPRD1 (ACS GS RKV) DLSSEMAILPRD2 (ACS GS RKV)	

Distinct FTP Server	DLSEMMAILPRD1 (ACS GS RKV) DLSEMMAILPRD2 (ACS GS RKV) MSTRNARPRD (ACS GS RKV) EDOCSAPPPRD1 (ACS GS RKV) EDOCSAPPPRD2 (ACS GS RKV)	File Transfer
MicroStrategy WEB Server 7.1.2	MSTRWEBPRD (ACS GS RKV)	
Microsoft SQL Server Client	MSTRINTPRD (ACS GS RKV)	Database Client
MicroStrategy Intelligence Server 7.1	MSTRINTPRD (ACS GS RKV)	
MicroStrategy Narrowcast Server 7.1	MSTRNARPRD (ACS GS RKV)	Subscription Services Marketing Campaign Services
Microsoft IIS 4.0	EDOCSSWEBPRD1 (ACS GS RKV) EDOCSSWEBPRD2 (ACS GS RKV) EDOCSAPPPRD1 (ACS GS RKV) EDOCSAPPPRD2 (ACS GS RKV)	Web Server
EDOCS COTS Package eaPay 1.2 eaDirect 1.9.1.4 eaPost 1.2	EDOCSSWEBPRD1 (ACS GS RKV) EDOCSSWEBPRD2 (ACS GS RKV) EDOCSAPPPRD1 (ACS GS RKV) EDOCSAPPPRD2 (ACS GS RKV)	
Servlet Exec 3.1	EDOCSSWEBPRD1 (ACS GS RKV) EDOCSSWEBPRD2 (ACS GS RKV) EDOCSAPPPRD1 (ACS GS RKV) EDOCSAPPPRD2 (ACS GS RKV)	
Microsoft SQL Server 7.0	EDOCSAPPPRD1 (ACS GS RKV) EDOCSAPPPRD2 (ACS GS RKV)	Database Management System
VisiBroker GateKeeper	EDOCSAPPPRD1 (ACS GS RKV) EDOCSAPPPRD2 (ACS GS RKV)	
Sun Java JDK 1.2.2	EDOCSAPPPRD1 (ACS GS RKV) EDOCSAPPPRD2 (ACS GS RKV) EDOCSSWEBPRD1 (ACS GS RKV) EDOCSSWEBPRD2 (ACS GS RKV)	EDOCS APP Server Node1 EDOCS APP Server Node2

### Programming Languages

Language	Version
Oracle SQL Plus	8i
HTML Web pages	
ASP Web pages	Visual Studio 6.0
JSP Web pages	Dreamweaver 4.1.0
Microsoft Visual Basic	Visual Studio 6.0
Microsoft C++	Visual Studio 6.0
Java Applets	Dreamweaver 4.1.0

## System Interfaces

Direction	System	Data Transfer Method
Bi-directional	DLSS Alpha Database (ACS GS)	ACMS Middleware
Bi-directional	DLM Datamart (VDC)	ODBC Data call
Bi-directional	FSA eMPN Repository (VDC)	API call
Bi-directional	NSLDS (VDC)	API MQSeries call
Bi-directional	Loan Origination (EDS)	Internet re-Direct
Bi-directional	Pin Validation (NCS)	Internet re-Direct
Bi-directional	Utica Filenet/Panagon	FTP Internal Route
Bi-directional	Bank of America	FTP Internet Encrypted
Bi-directional	CheckFree	FTP Internet Encrypted
Bi-directional	EGAIN (ACS AFSA)	Internet Email Encrypted
Bi-directional	SAIG	SAIG Client Software
Bi-directional	DLSS eCRM Pin Requests	FTP

## Points of Contact

Role	Contact	Organization	Phone	Email Address
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Application Architect	Mark Blevins	ACS Government Services	(301) 212-8052	<a href="mailto:Mark.Blevins@acs-inc.com">Mark.Blevins@acs-inc.com</a>
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### 3.4.2 eServicing

*Last updated April 30, 2002*

#### **Description**

Direct Loan eServicing will provide Internet bill presentment and payment, On-Line Correspondence, and an enhanced Customer Management System. By integrating these three components, DLSS will provide a uniform and high-quality customer service experience for our borrowers regardless of how they choose to interact with DLSS – via the Internet, the VRU, or Customer Service Representatives (CSRs).

#### **Infrastructure Technologies**

<b>Product</b>	<b>Server</b>	<b>Use</b>
Microsoft Windows NT Server 4.0		Mid-Tier Operating System
HP-UX 11.0		Mid-Tier Operating System
Oracle 8i 8.1.6		Database Management
Microsoft SQL Server 7.0		Database Management
Siebel eFinance 6.3		Finance CRM application suite
IBM MQSeries Messaging 5.2		FSA EAI interface transport layer
IBM MQSeries Server 5.2		FSA EAI interface queue client
IBM MQSeries Client 5.2		FSA EAI interface queue server
IBM MQSeries AMI 1.2.1		FSA EAI application messaging standard
IBM MQSeries Integrator 2.02		FSA EAI message transformation and routing
EDOCs (EBPP/OC)		Bill presentment and payment online correspondence tool
Avaya CentreVu CT		CTI software
Intervoice-Brite Write 1		IVR software
Avaya CentreVu CMS		CTI call management software
CommerceQuest Data Integrator 4.0.1		File Transfer
HP Service Guard		Failover Software
FSA PIN		Authentication
McAfee		Virus Protection
CA UniCenter AutoSys		Workflow Management

## Programming Languages

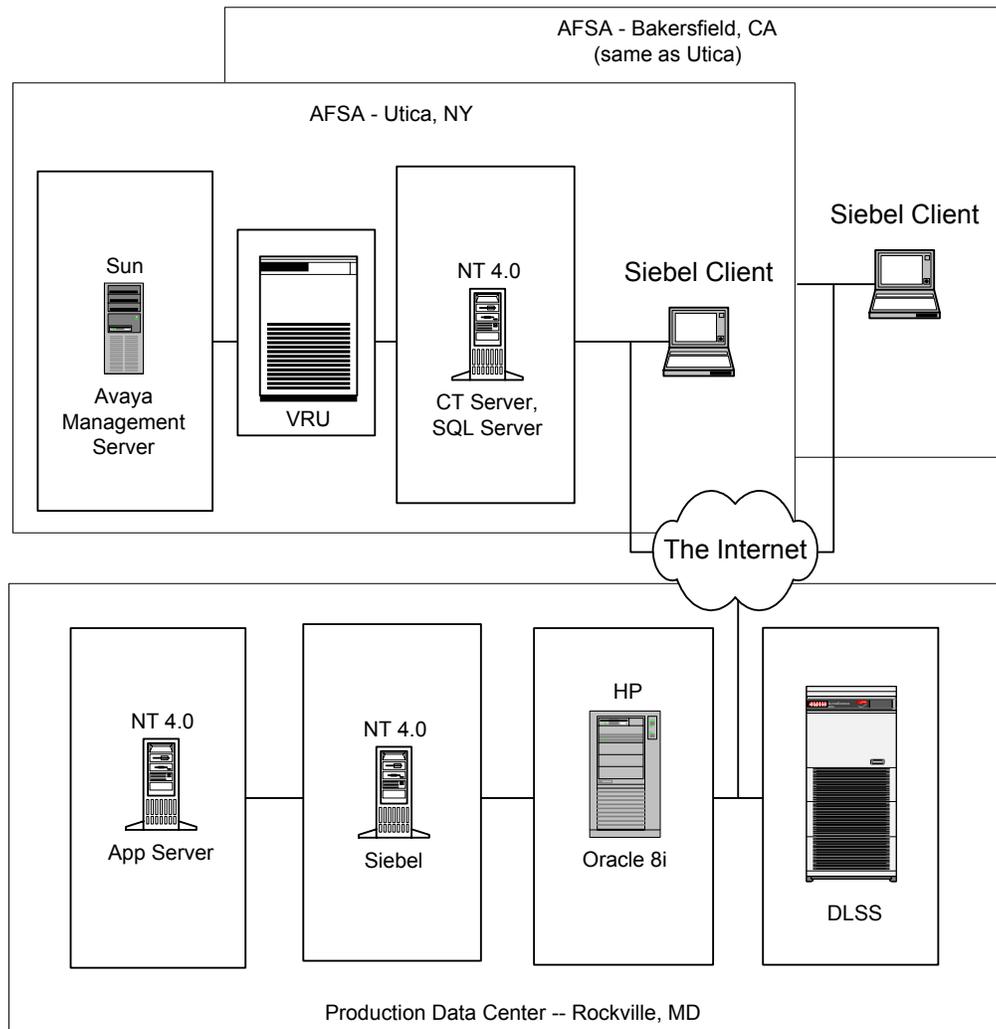
Language	Version
PL/SQL	8.17
C++	6

## System Interfaces

Direction	System	Data Transfer Method
Bi-directional	DLSS	EAI Batch & Transactional
Bi-directional	ECRM - FSA System FSA (PIN Site)	Oracle stored procedure
Send data to	CPS	Direct access to Oracle stored procedures

## Points of Contact

Role	Contact	Organization	Phone	Email Address
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Technical Architect	John Coleman	Accenture	(703) 947-1372	<a href="mailto:john.f.coleman@accenture.com">john.f.coleman@accenture.com</a>
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**Figure 11 – eServicing Logical Model**

### 3.4.3 *FAFSA on the Web*

*Last updated April 30, 2002*

#### **Description**

Free Application for Federal Student Aid (FAFSA) is an application used by college students and schools to submit financial aid applications via the Internet. The FAFSA on the Web redesign initiative is an effort to modernize FAFSA on the Web and accommodate a projected increase in users.

In the first release (FAFSA on the Web release 6), the architecture will migrate from a two-tiered architecture to an N-tier architecture where business and presentation logic are separated. This

approach will alleviate redundancy between applications and be more easily integrated with new and existing systems.

In subsequent releases, a seamless user experience will be created between FAFSA on the Web, the Students Portal, and other state and institutional sites.

### Infrastructure Technologies

Product	Server	Use
Oracle 8i 8.1.7	HPV2	Database Management
IBM DB2	CPS	Database Management
IBM WebSphere Enterprise Edition v3.5.5	HPN7 HPN8 HPN15 HPN16 HPA2	Application Server
IBM IHS Server v1.3.12	HPN13 HPN14 HPN4 HPL3	Web Server
Rational ClearCase v4.1		Configuration Management
IBM eNetwork Dispatcher	SU22E3 SU22E4	Load Balancing
Web Trends		Web Server Monitoring

### Programming Languages

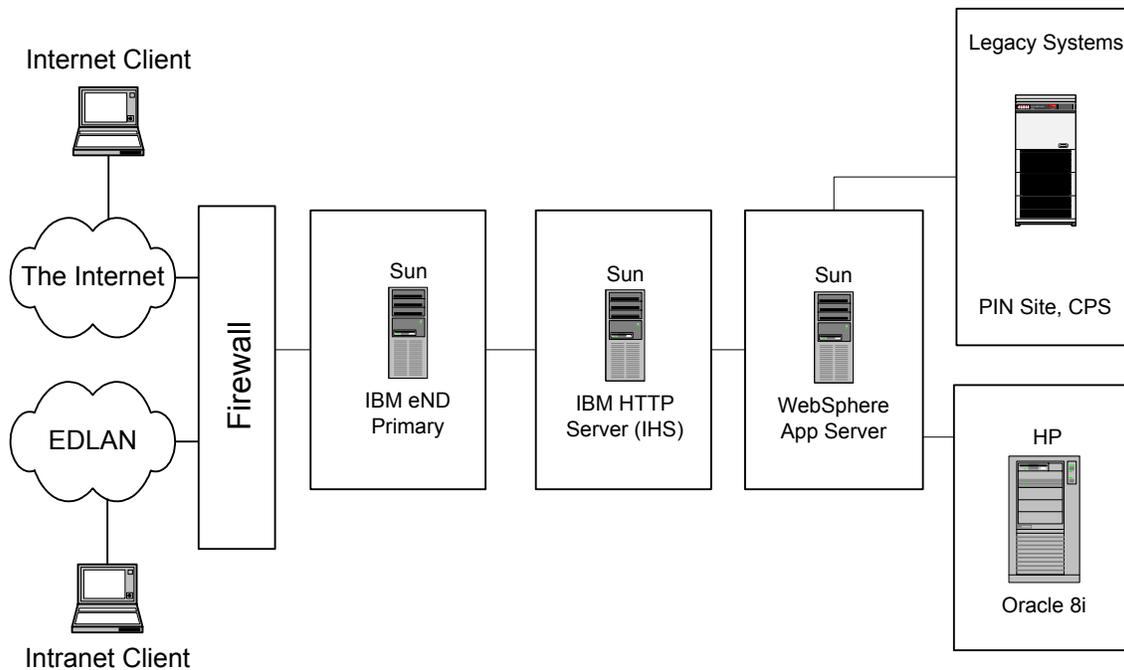
Language	Version
<i>None reported</i>	

### System Interfaces

Direction	System	Data Transfer Method
Bi-directional	CPS	Batch
Bi-directional	FSA PIN	PIN API

**Points of Contact**

Role	Contact	Organization	Phone	Email Address
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Technical Architect	Jose Alvarez	Mod Partner		
Application Architect	Matt Kain	NCS Pearson	(319) 339-6902	<a href="mailto:matt_kain@ncs.com">matt_kain@ncs.com</a>
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Issues & Upgrades	Alex Lefur	Accenture	(720) 530-4910	<a href="mailto:alex.h.lefur@accenture.com">alex.h.lefur@accenture.com</a>
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**Figure 12 – FAFSA on the Web 6.0 Logical Model**

### 3.4.4 HR Modernization

Last updated April 30, 2002

#### Description

HR Modernization focuses on building out the core services of the recently created FSA HR organization. These services are critical to enable FSA’s workforce to enhance the service to Students, Schools and Financial Partners, while finding avenues to increase efficiency and reduce overall delivery cost. FSA HR is filling in the gaps and transforming ineffective solutions of current HR functions, to enable FSA and the Department of Education (ED) to capitalize on the potential of its employees.

Phase II will build upon the foundation of the Jamcracker platform and associated processes that were established in Phase I of HR Modernization. The Jamcracker platform is designed to facilitate the rapid deployment of netsourced applications. Netsourced applications are a key component of FSA’s Target Architecture. Maintenance and support activities are outsourced to Jamcracker to provide 24/7 virtual support to FSA employees. Through this outsourcing economies of scale are realized as additional applications are launched on the platform,

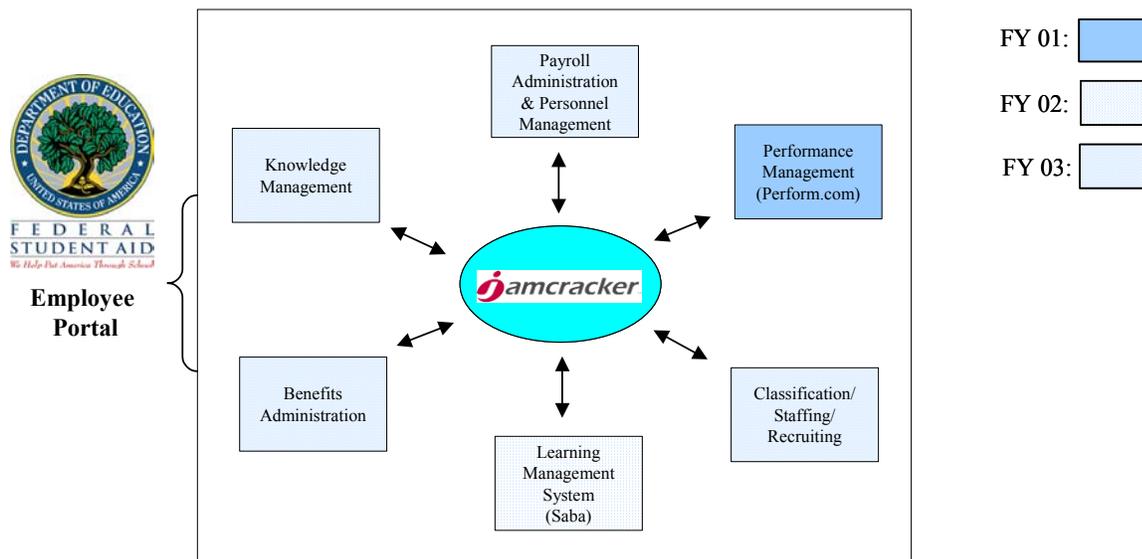


Figure 13 – HR Automoaition Vision

The HR Automation vision was created to provide a framework for the rapid deployment of “Best-of-Breed” HR Application Service Provider (ASP) systems, facilitate the automation of these core processes and support FSA’s PBO transformation by enabling ownership and control of crucial HR functions. The FSA HR Automation vision uses an Aggregator (Jamcracker) and multi-ASP model to enable seamless integration and single sign-on capabilities for all connected applications.

## Infrastructure Technologies

Product	Server	Use
Hummingbird XCEED		Emulation
MQ Series Workflow v3.2.2		Workgroup Management
Oracle 8i/8.05		Database Management Authentication
Informatica Power Center Server 5.0		Data Acquisition
Crystal Reports 8.0		End User Data Access
MQ Series Server v5.2		Middleware
MQ Series Client v5.2		Middleware
Innovision XML Server		XML Server
Compress		File Compression
WinZip		File Compression
Citrix		Remote Access Services
CheckPoint VPN-1		Virtual Private Network
CICS		Mainframe Operating System
Microsoft Windows NT v4.0		Operating System
Microsoft Windows 2000		Operating System
Sun Solaris v2.6		Operating System
CheckPoint Firewall-1		Firewall Services
Single Sign On (TBD)		Authentication
Top Secret		Database Security Services
Verisign (SSL)		Encryption
RSA BSAFE Libraries		Encryption
DES3		Encryption
Norton Antivirus		Virus Protection
BEA		Message Bus
Apache		Web Server
BEA WLPI		Workflow Management
BEA Weblogic		Application Server
Netegrity		(Security, SSO – identification, authentication, authorization, user credentials)
Business Objects		(Data Warehouse)
Clarify		Customer Relations Management
Jamcracker		

## Programming Languages

Language	Version
None reported	

## System Interfaces

Direction	System	Data Transfer Method
None reported		

## Points of Contact

Role	Contact	Organization	Phone	Email Address
FSA Sponsor	Calvin Thomas	FSA, Human Resources	(202) 377-3011	<a href="mailto:calvin.thomas@ed.gov">calvin.thomas@ed.gov</a>
Project Lead	Scott Bone	Accenture	(703) 947-1236	<a href="mailto:scott.e.bone@accenture.com">scott.e.bone@accenture.com</a>

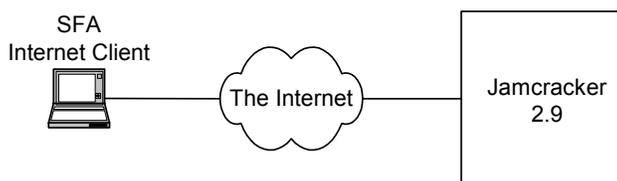


Figure 14 – HR Modernization Logical Model

### 3.4.5 Information for Financial Aid Partners (IFAP)

*Last updated July 30, 2002*

#### Description

The Information for Financial Aid Professionals (IFAP) web site (<http://ifap.ed.gov>) is an electronic library for financial aid professionals containing publications, regulations, and guidance regarding the administration of the Title IV Federal Student Financial Aid Programs. IFAP is managed by the Customer Service Call Center (CSCC) within the Schools Channel of Federal Student Aid in the Department of Education.

IFAP has a subscription option that notifies registered customers via email when new information (Dear Partner Letter, Announcement, Federal Register, etc.) has been added to the wealth of information available on IFAP. The email is customized based on users' subscription selections.

Users can select to be notified when new documents are added to the IFAP catalog based on Publication Type and Program/Service categories. Users can select more than one Publication Type or Program/Service category. Even if selections overlap, the system is designed to not send duplicate notifications of a single document.

### Infrastructure Technologies

Product	Server	Use
IBM Network Dispatcher 2.1.2		Load Balancing
IBM WebSphere Enterprise Edition v3.5.3	SU35E9 SU35E13	Application Server
IBM IHS Server v1.3.12	SU35E10 SU35E12	Web Server
HP-UX 11.0		Mid-Tier Operating System
Sun Solaris 2.6		Mid-Tier Operating System
Oracle 8i 8.1.7	HPV2	Database Management
Interwoven OpenDeploy v5.0	SU35E1	Content Management
Interwoven Teamsite v5.0	SU35E1	Content Management
Autonomy Knowledge Suite v3.1	SU35E7 SU35E15	Knowledge Management Search Engine
Web Trends		Web Server Monitoring

### Programming Languages

Language	Version
Java	
HTML	

### System Interfaces

Direction	System	Data Transfer Method
Receive data from	CSCC (FSA)	Interwoven TeamSite

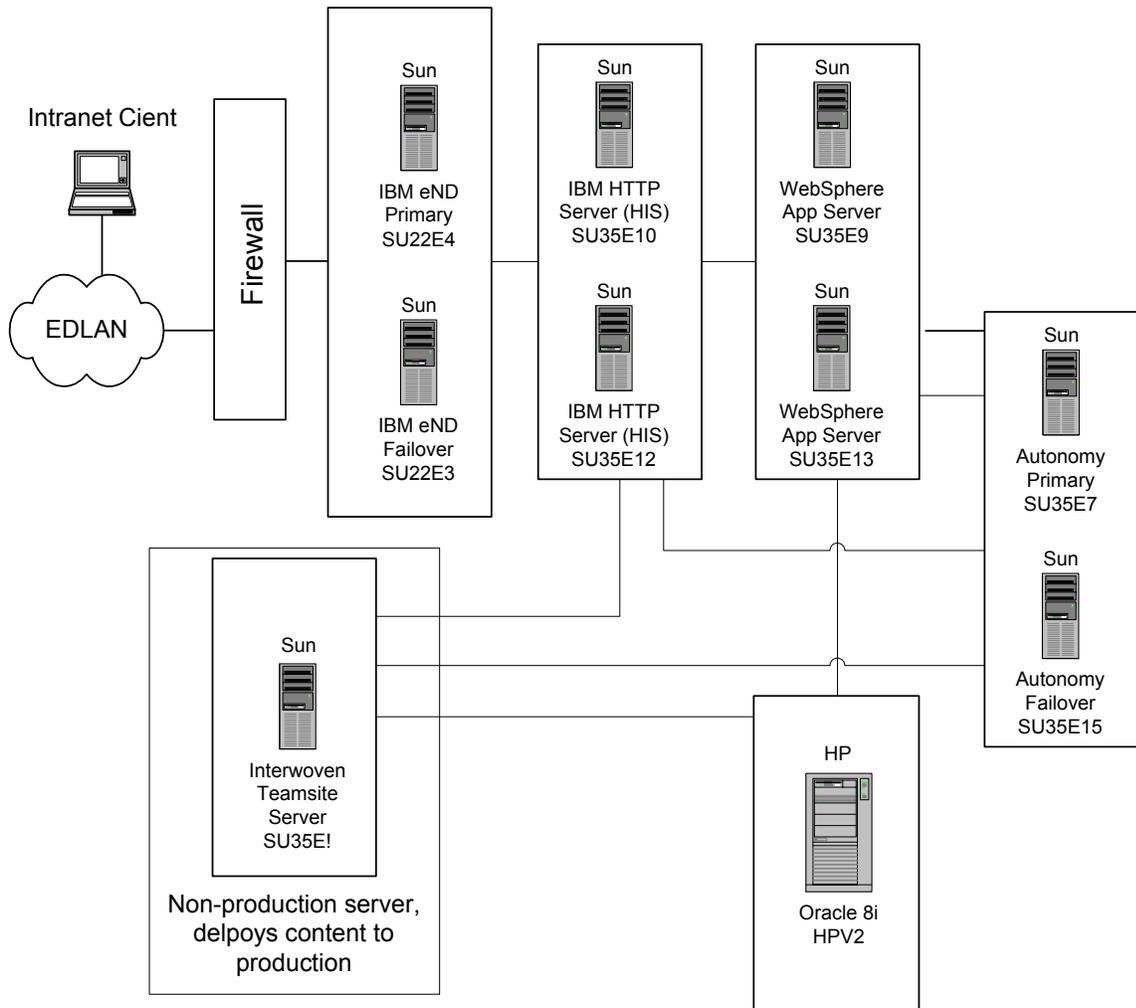
### Points of Contact

Role	Contact	Organization	Phone	Email Address
FSA Sponsor	Colleen Kennedy	FSA	(202) 377-4119	<a href="mailto:colleen.kennedy@ed.gov">colleen.kennedy@ed.gov</a>
Project Lead	Tom Schweikert	INDUS	(703) 506-6700 x3176	<a href="mailto:tschweikert@indusco.com">tschweikert@indusco.com</a>

---

Technical Architect	Josh Stauffer	Accenture	(202) 962-0742	<a href="mailto:josh.stauffer@accenture.com">josh.stauffer@accenture.com</a>
Application Architect	Ming Chen	INDUS	(703) 506-6700 x3015	<a href="mailto:mchen@induscorp.com">mchen@induscorp.com</a>
Data Architect	Jhuma Chakraborty	INDUS	(703) 506-6700 x3062	<a href="mailto:jhumac@induscorp.com">jhumac@induscorp.com</a>
Business Architect	Theresa Urban	INDUS	(703) 506-6700 x3030	<a href="mailto:theresa.urban@induscorp.com">theresa.urban@induscorp.com</a>
System Monitoring	Tom Schweikert	INDUS	(703) 506-6700 x3176	<a href="mailto:tschweikert@induscorp.com">tschweikert@induscorp.com</a>
Issues & Upgrades	Tom Schweikert	INDUS	(703) 506-6700 x3176	<a href="mailto:tschweikert@induscorp.com">tschweikert@induscorp.com</a>
Operations Account Manager	Jerry Ryznar	CSC	(202) 842-7397 (240) 463-1934	<a href="mailto:gryznar@csc.com">gryznar@csc.com</a>
Operations Service Delivery Manager	Jack Gillotti	CSC	(203) 317-4816	

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**Figure 15 – IFAP Logical Model**

### 3.4.6 Ombudsman

*Last updated July 30, 2002*

#### **Description**

The Ombudsman system provides customer relations management for callers to the Ombudsman Office.

### Infrastructure Technology

Product	Server	Use
MQ Series Workflow v3.2.2	SFANT005	Workflow Management
Siebel	SFANT005	Business Services
Sterling Software CoolGen	SFANT008	Data Modeling
Oracle Application Server	SFANT005	Application Server
Web Trends	SFANT008	Web Server Monitoring
Microsoft Windows NT v4.0	SFANT005	Operating System
Netscape Certificate Server	SFANT008	Digital Certificate Server Services

### Programming Languages

Language	Version
<i>None reported</i>	

### System Interfaces

Direction	System	Data Transfer Method
Bi-directional	NSLDS	EAI Transaccational

### Points of Contact

Role	Contact	Organization	Phone	Email Address
FSA Sponsor	Debra Wiley	FSA	(202) 377-3801	<a href="mailto:debra.wiley@ed.gov">debra.wiley@ed.gov</a>
System Monitoring	Ashwin Parbadia	ROH, Inc.	(703) 412-0025 x4061	<a href="mailto:parbadiaA@roh-inc.com">parbadiaA@roh-inc.com</a>
Issues & Upgrades	Corwin K. Jennings	FSA	(202) 377-3291	<a href="mailto:corwin.jennings@ed.gov">corwin.jennings@ed.gov</a>
Operations Account Manager	Jennifer Hance	CSC	202-842-7399 508-878-5375	<a href="mailto:jhance@csc.com">jhance@csc.com</a>
Operations Service Delivery Manager	Jack Gillotti	CSC	203.317.4816	

### 3.4.7 *Students & Financial Partners Portals*

*Last updated July 30, 2002*

#### **Description**

In FY2002, FSA invested in the initial development of a single web portal with views specific to its Students and Financial Partner customers (the FSA Students Portal and the FSA Financial Partners Portal). The Students and Financial Partners portals bring together information and productivity tools necessary for FSA's customers, employees, and partners to make informed financial aid decisions. These portals also create a common architecture standard that utilizes FSA's integrated technical architecture (ITA) to enable FSA to integrate its existing web sites (e.g. Free Application for Federal Student Aid (FAFSA), National Student Loan Data System (NSLDS), and Direct Loan Servicing System (DLSS) etc.) and external sites (Mapping-your-future.com, finaid.org etc.) into the portals. These two portals also utilize FSA's common look and feel and provide users with a consistent and seamless online experience. The first release of the Students Portal and the Financial Partners Portal has been completed and the team is currently working on the second release.

#### **Infrastructure Technologies**

<b>Product</b>	<b>Server</b>	<b>Use</b>
IBM WebSphere Enterprise Edition v3.5.5	SU35E9 SU35E13	Application Server
FSA PIN (Custom Application)		Authentication
Rational ClearCase v4.1	RATIONAL	Configuration Management
Interwoven Teamsite 5.0	SU35E1	Content Management
Oracle 8i 8.1.7	HPV2	Database Management System
Autonomy Knowledge Suite 3.1	SU35E7 SU35E16	Knowledge Management Search Engine
Sun Solaris 2.6	SU35E1 SU35E7 SU35E9 SU35E10 SU35E12 SU35E13 SU35E16	Operating System
HP/UX v11.0	HPV2	Operating System
IBM IHS Server v1.3.12	SU35E10 SU35E12	Web Server
Web Trends		Web Server Monitoring
Rational ClearQuest v2001A.04.00		Change Management
Oracle Application Server		Application Server

## Programming Languages

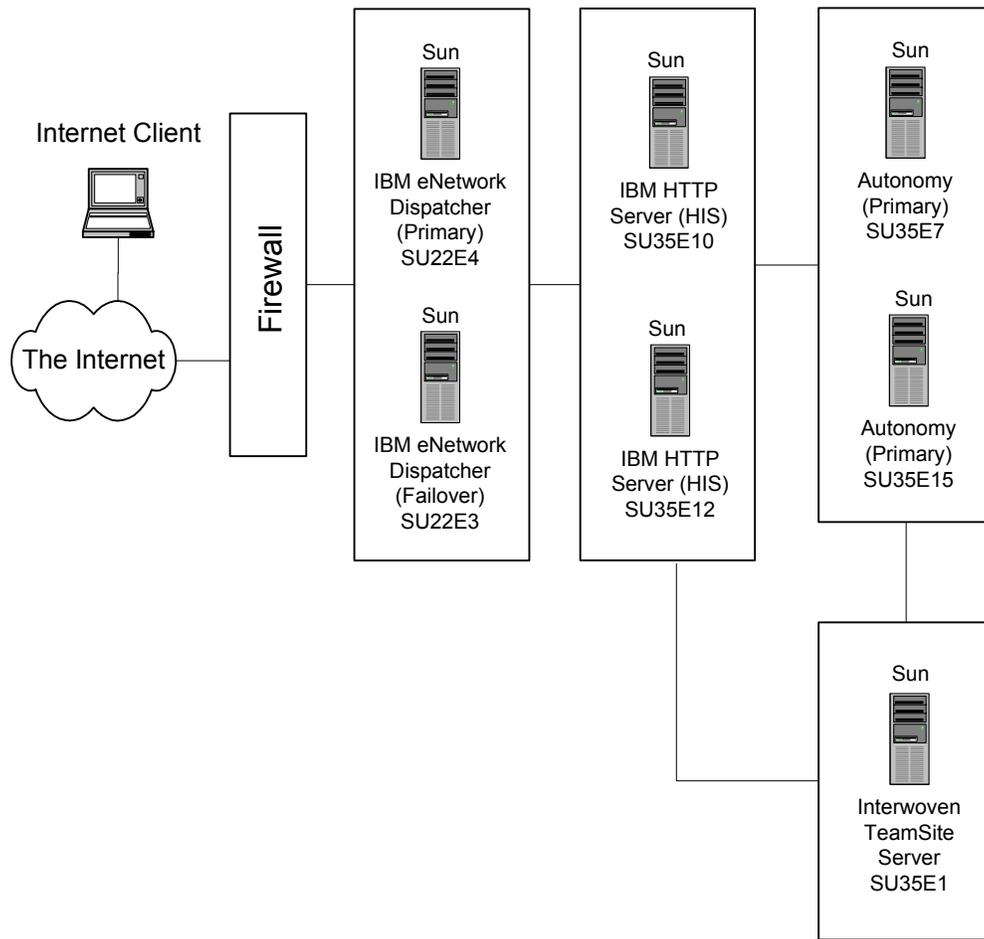
Language	Version
Java	2

## System Interfaces

Direction	System	Data Transfer Method
<i>None reported</i>		

## Points of Contact

Role	Contact	Organization	Phone	Email Address
FSA Sponsor	Jennifer Douglas	FSA, Students Channel	(202) 377-3201	<a href="mailto:jennifer.douglas@ed.gov">jennifer.douglas@ed.gov</a>
Project Lead	Jacqueline Dufort	Accenture	(202) 377-3202	<a href="mailto:jacqueline.a.dufort@accenture.com">jacqueline.a.dufort@accenture.com</a>
Students Lead	Mary K. Muncie	FSA, Students Channel	(202) 377-3202	<a href="mailto:mary.k.muncie@ed.gov">mary.k.muncie@ed.gov</a>
Financial Partners Lead	Johan Bos-Beijer	FSA, Financial Partners Channel	(202) 377-3302	<a href="mailto:johan.bos-beijer@ed.gov">johan.bos-beijer@ed.gov</a>
Project Lead	Matt Wilson	Accenture	(202) 377-3072	<a href="mailto:matthew.b.wilson@accenture.com">matthew.b.wilson@accenture.com</a>
Technical Architect	Chris Lawson	Accenture	(202) 377-4044	<a href="mailto:christopher.j.lawson@accenture.com">christopher.j.lawson@accenture.com</a>
Data Architect	Chris Lawson	Accenture	(202) 377-4044	<a href="mailto:christopher.j.lawson@accenture.com">christopher.j.lawson@accenture.com</a>
Business Architect	Erick Middleton	Accenture	(202) 377-3233	<a href="mailto:erick.c.middleton@accenture.com">erick.c.middleton@accenture.com</a>
Operations Account Manager	Jerry Ryznar	CSC	(202) 842-7397 (240) 463-1934	<a href="mailto:gryznar@csc.com">gryznar@csc.com</a>
Operations Service Delivery Manager	Jack Gillotti	CSC	(203) 317-4816	<a href="mailto:jgillott@csc.com">jgillott@csc.com</a>



**Figure 16 – Students & Financial Partners Portals Logical Model**

### 3.5 Systems to be Retired

The systems listed below have been retired. They are included in the TIB while they are transitioned off of the current FSA Target Architecture.

#### 3.5.1 CFO Data Mart

*Retired on June 30, 2002*

*Last updated June 30, 2002*

#### Description

The CFO Data Mart provides an automated financial analysis and reporting process. Financial Management Systems Software (FMSS), a Department of Education system, serves as the source system for data used in the CFO data mart. User-supplied cross-reference data is also used to populate the mart (e.g., Channel, Lim, Activity). FMSS performs nightly extracts of activity from the previous day. The extracted data is exported via FTP to the Informatica server at the VDC. Informatica then imports the data into Oracle, performs the necessary transformations, and populates the CFO data mart. The data mart is accessed by MicroStrategy Intelligent Server to satisfy user requirements that are sent via a web interface. Users access the CFO data mart directly through the FSA intranet.

The CFO, FP, and CM Data Marts have identical architectures with the exception that CFO is on Oracle 8.1.7, while FP and CM are on 8.1.6.

#### Infrastructure Technologies

Product	Server	Use
Oracle 8i 8.1.7	HPV2	Database Management
Informatica Power Center Server 5.0	SU35E18	Data Acquisition
MicroStrategy 7.1.2	SFANT002 SFANT003	End User Data Access
Intelligence Server 7.0	SFANT004	End User Data Access
IBM Network Dispatcher	SU22E4 SU22E3	Web Server
HP-UX 11.0	HPV2	Operating System
Sun Solaris 2.6	SU22E4 SU22E3 SU35E18	Operating System
Microsoft Windows NT	SFANT002 SFANT003 SFANT004	Operating System

## Programming Languages

Language	Version
<i>None reported</i>	

## System Interfaces

Direction	System	Data Transfer Method
Receive Data from	FMSS (Dept. of Education)	Informatica

*The incoming feed from FMSS has been disabled since 1/22/02, due to a financials upgrade by ED. ETC to resume the feed is currently unknown.*

## Points of Contact

Role	Contact	Organization	Phone	Email Address
FSA Sponsor	James Greene	FSA	202-377-3560	<a href="mailto:james.greene@ed.gov">james.greene@ed.gov</a>
Project Lead	Scott McConaghie	Accenture	202-962-0722	<a href="mailto:scott.a.mcconaghie@accenture.com">scott.a.mcconaghie@accenture.com</a>
Technical Architect	Tina Liu	Friday Systems	202-962-0726	<a href="mailto:tliu@fridaysystems.com">tliu@fridaysystems.com</a>
Application Architect	Tina Liu Mark Mandrella	Friday Systems Accenture	202-962-0726 202-962-0721	<a href="mailto:tliu@fridaysystems.com">tliu@fridaysystems.com</a> <a href="mailto:mark.e.mandrella@accenture.com">mark.e.mandrella@accenture.com</a>
Data Architect	Dorothy Pan	Accenture	202-962-0725	<a href="mailto:yuhui.pan@accenture.com">yuhui.pan@accenture.com</a>
Business Architect	Scott McConaghie	Accenture	202-962-0722	<a href="mailto:scott.a.mcconaghie@accenture.com">scott.a.mcconaghie@accenture.com</a>
System Monitoring	Josh Stauffer	Accenture	202-962-0742	<a href="mailto:josh.stauffer@accenture.com">josh.stauffer@accenture.com</a>
Issues & Upgrades	Tina Liu	Friday Systems	202-962-0726	<a href="mailto:tliu@fridaysystems.com">tliu@fridaysystems.com</a>
Operations Account Manager	Jerry Ryznar	CSC	202-842-7397 240-463-1934	<a href="mailto:gryznar@csc.com">gryznar@csc.com</a>
Operations Service Delivery Manager	Jack Gillotti	CSC	203-317-4816	

### 3.5.2 Direct Loan Origination System (DL0S)

*Scheduled for retirement by December 30, 2002*

## Description

The Direct Loan Origination System (DLOS) performs regular loan originations and PLUS loan originations. DLOS provides a direct interface with schools, 3rd party servicers, and the Student Account Manager (SAM). DLOS receives and processes all loan applications and disbursements, and records the receipt of the completed promissory note. It provides the principle communication link with the schools to regulate the flow of information. DLOS and RFMS are legacy systems that are being replaced by COD.

## Infrastructure Technologies

Product	Server	Use
HP-UX 11.0		Server OS
Informix 7.31		Database

## Programming Languages

Language	Version
<i>None reported</i>	

## System Interfaces

Direction	System	Data Transfer Method
<i>None reported</i>		

## Points of Contact

Role	Contact	Organization	Phone	Email Address
FSA Sponsor	Stephen Wingard	FSA	202-377-3127	<a href="mailto:steve.wingard@ed.gov">steve.wingard@ed.gov</a>
Operations Account Manager	Jerry Ryznar	CSC	202-842-7397 240-463-1934	<a href="mailto:gryznar@csc.com">gryznar@csc.com</a>
Operations Service Delivery Manager	Jack Gillotti	CSC	203.317.4816	

### **3.5.3 Recipient and Financial Management System (RFMS)**

*Scheduled for retirement December 30, 2002*

## Description

The Recipient and Financial Management System is used to generate obligation information and monitor grant funds at both the institution and recipient level. RFMS performs the following functions:

- Authorizing the distribution of funds through the participating institutions to permit payment of vouchers
- Monitoring the use of funds throughout the award year to permit reallocation of supplemental awards as necessary to correspond with student attendance
- Verifying institutional expenditures through comparing disbursements reported at the recipient level
- Responding to informational requests from institutions, recipients, and others
- Defining, collecting, and reporting data to assist in the evaluation of the Pell Grant program and in projecting future needs

DLOS and RFMS are legacy systems that are being replaced by COD.

## Infrastructure Technologies

Product	Server	Use
IBM CICS 4.1		Application server
OS/390 MVS		Mainframe Operating System
Microsoft Windows NT Server 4.0		Operating System
IBM DB2 5.1		Database Management
IBM RACF 2.4		Authentication

## Programming Languages

Language	Version
<i>None reported</i>	

## System Interfaces

Direction	System	Data Transfer Method
<i>None reported</i>		

### Points of Contact

Role	Contact	Organization	Phone	Email Address
FSA Sponsor	Leonard Brown	FSA	202-377-3104	<a href="mailto:lenny.brown@ed.gov">lenny.brown@ed.gov</a>
Operations Account Manager	Jerry Ryznar	CSC	202-842-7397 240-463-1934	<a href="mailto:gryznar@csc.com">gryznar@csc.com</a>
Operations Service Delivery Manager	Gary Adams	CSC	202.842.8614	<a href="mailto:gadams2@csc.com">gadams2@csc.com</a>

## 4 DEVELOPMENT INFRASTRUCTURE

The majority of FSA systems use a standard development infrastructure, detailed in Figure 17 – FSA Standard Development Infrastructure below. This standardization helps reduce the cost, complexity, and start up time for a new effort.

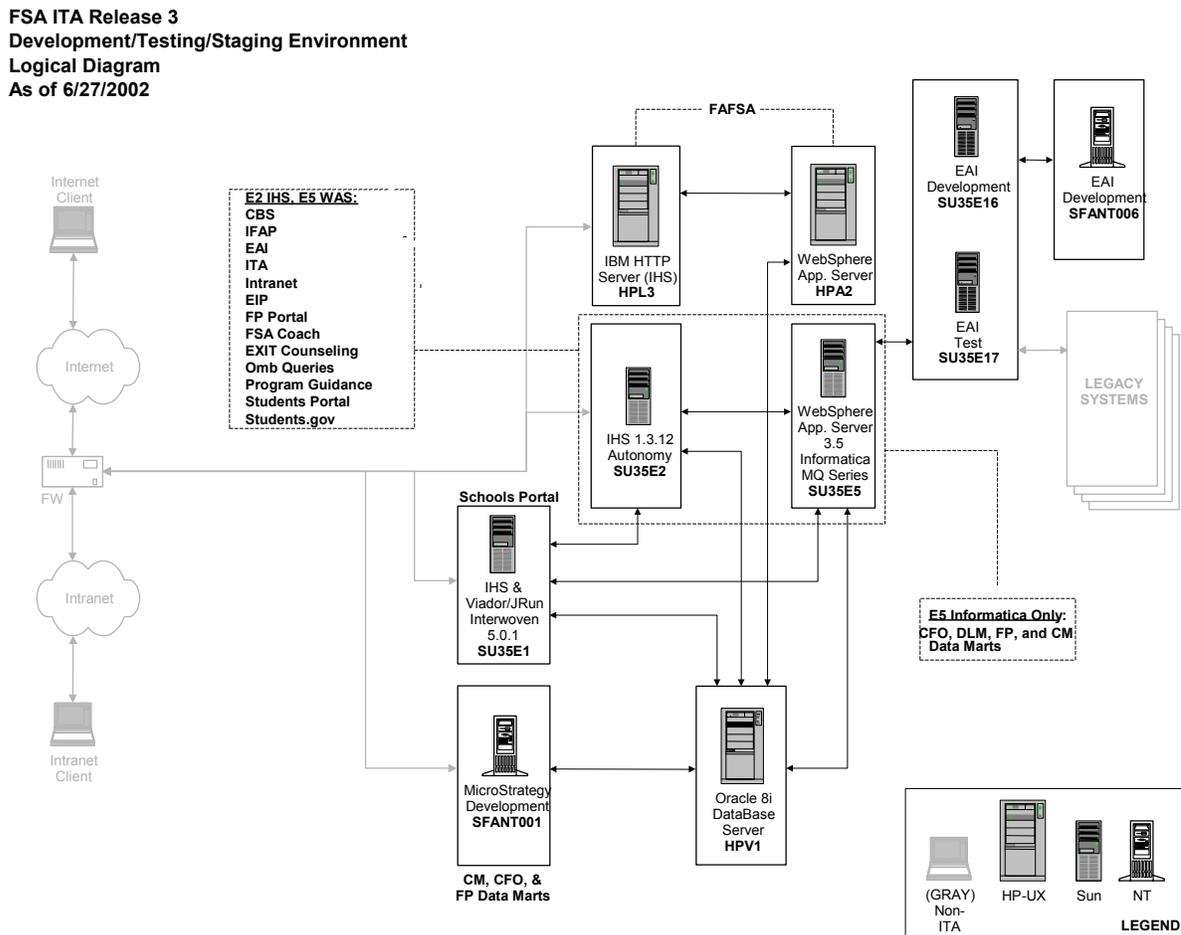


Figure 17 – FSA Standard Development Infrastructure

The Development Infrastructure provides the development tools, methods, standards and procedures that support the project teams involved in the analysis, design, construction and maintenance of FSA business applications. It is the combination of these development tools, methods, standards and procedures that are essential for a comprehensive, integrated environment.

## **APPENDIX A: DEFINITION OF ROLES**

### ***Operations Account Manager***

The Operations Account Manager typically has the following responsibilities:

- Account management and strategy
- Overall relationship with customer/business owner
- Financial Support
- Contract Support
- Customer Satisfaction
- Understands FSA business
- Second level of escalation for all service delivery issues (first level of escalation is SDM)

### ***Operations Service Delivery Manager***

Service Delivery Manager (SDM) - As the name implies, these individuals are responsible for the delivery of service for the specific projects they are assigned to. Service delivery includes but is not limited to:

- Serve as the single point of contact for all service issues for all technical disciplines (Lines of Service - LOS)
- Focal point for responding to outages, communicating outage information to the customer, Mod Partner, Operating Partners, and AEs as needed
- Works with AE and customer on defining service delivery solutions for new requirements
- Focal point for change requests (interface to FSA, MP, OP, and lines of service)
- First level of escalation for all services issues.
- Day-to-day service delivery communications
- Lead Technical Contact for customer/business owner, and partners

## APPENDIX B: POINTS OF CONTACT

Name	System	Role
Adams, Gary	Central Processing System	Operations Service Delivery Manager
Adams, Gary	eCampus Based	Operations Service Delivery Manager
	National Student Loan Database System	Operations Service Delivery Manager
	Student Aid Internet Gateway	Operations Service Delivery Manager
Alden, Jen	Financial Management System	Business Architect
Alex, Jiji	Electronic Records Management	Business Architect
	Electronic Records Management	Project Lead
	Electronic Records Management	Technical Architect
Alvarez, Jose	FAFSA on the Web	Technical Architect
Anderson, Karen	Business-Technology Alignment	
Barfield, Sharon	Common Origination & Disbursement	Application Architect
	Common Origination & Disbursement	Data Architect
Baum, Wayne	Common Origination & Disbursement	Issues & Upgrades
	Common Origination & Disbursement	System Monitoring
Beavers, Rosemary	Common Origination & Disbursement	FSA Sponsor
Blevins, Mark	DLSS Web Site	Application Architect
	DLSS Web Site	Business Architect
Bone, Scott	HR Modernization	Project Lead
Bos-Beijer, Johan	Students & Financial Partners Portal	Financial Partners Lead
Brown, Nathan	National Student Loan Database System	Application Architect
Chakraborty, Jhuma	Information for Financial Aid Partners	Data Architect
Chen, Ming	Information for Financial Aid Partners	Application Architect
Coleman, John	eServicing	Technical Architect
Crowley, Katie	Common Origination & Disbursement	Business Architect
	Common Origination & Disbursement	Data Architect
Cruz, Fernando	DLSS Web Site	System Monitoring
Daughtry, Marcus	Financial Management System	System Monitoring
DeJong, Sam	Postsecondary Education Participant System	Issues & Upgrades
	Postsecondary Education Participant System	System Monitoring

<b>Name</b>	<b>System</b>	<b>Role</b>
Douglas, Jennifer	Customer Relation Management 4 FSA	FSA Sponsor
	Students & Financial Partners Portal	FSA Sponsor
Dufort, Jacqueline	Students & Financial Partners Portal	Project Lead
Elliott, Todd	Credit Management Data Mart	Business Architect
	Financial Management System	Project Lead
Farrington, Joe	DLSS Web Site	Data Architect
Fillinich, Mike	National Student Loan Database System	FSA Sponsor
Gillani, Aryn	Financial Management System	Data Architect
Gillotti, Jack	Common Origination & Disbursement	Operations Service Delivery Manager
	Credit Management Data Mart	Operations Service Delivery Manager
	Federal Family Education Program	Operations Service Delivery Manager
	Financial Partner Data Mart	Operations Service Delivery Manager
	Information for Financial Aid Partners	Operations Service Delivery Manager
	Ombudsmen	Operations Service Delivery Manager
	Postsecondary Education Participant System	Operations Service Delivery Manager
	Students & Financial Partners Portal	Operations Service Delivery Manager
Gray, Scott	Enterprise Application Integration	Technical Architect
Greene, James	Financial Partner Data Mart	FSA Sponsor
Groover, Michael	DLSS Web Site	Operations Account Manager
Hance, Jennifer	Credit Management Data Mart	Operations Account Manager
	Financial Management System	Operations Account Manager
	Ombudsmen	Operations Account Manager
	Student Aid Internet Gateway	Operations Account Manager
Hayes, Maylon	DLSS Web Site	Issues & Upgrades
	DLSS Web Site	Technical Architect
Hayward, Dan	Direct Loan Servicing System	FSA Sponsor
	DLSS Web Site	FSA Sponsor
	eServicing	FSA Sponsor
Healy, Mike	Enterprise Application Integration	Operations Service Delivery Manager
	FAFSA on the Web	Operations Service Delivery Manager
	Financial Management System	Operations Service Delivery Manager
Helwig, Terry	National Student Loan Database System	Technical Architect
Holman, Jane	eCampus Based	FSA Sponsor

Name	System	Role
Izzo, Paul	Student Aid Internet Gateway	System Monitoring
Jacks, Kay	Customer Relation Management 4 FSA	FSA Sponsor
Jennings, Corwin	Ombudsmen	Issues & Upgrades
Johnson, Steve	Student Aid Internet Gateway	Data Architect
Kain, Matt	FAFSA on the Web	Application Architect
	FAFSA on the Web	Data Architect
Kennedy, Colleen	Information for Financial Aid Partners	FSA Sponsor
Kingsley, Bruce	Enterprise Application Integration	Project Lead
Lass, Dave	FSA Intranet	Operations Service Delivery Manager
Lawson, Chris	Students & Financial Partners Portal	Data Architect
Lawson, Chris	Students & Financial Partners Portal	Technical Architect
Lefur, Alex	eCampus Based	Technical Architect
	FAFSA on the Web	Issues & Upgrades
	FAFSA on the Web	System Monitoring
Leifeste, Denise	Direct Loan Consolidation system	FSA Sponsor
Lynch, Jim	Electronic Records Management	FSA Sponsor
Malyszka, Bill	Business-Technology Alignment	
Marks, Carrie	eCampus Based	Project Lead
Marks, David	Enterprise Application Integration	Business Architect
Matheny, Len	Electronic Records Management	Data Architect
	Electronic Records Management	Issues & Upgrades
	Electronic Records Management	Operations Account Manager
	Electronic Records Management	Operations Service Delivery Manager
	Electronic Records Management	System Monitoring
Matthews, Leonard	eServicing	Issues & Upgrades
McCann, Brian	Financial Management System	Application Architect
McConaghie, Scott	Credit Management Data Mart	Project Lead
	Financial Partner Data Mart	Project Lead
Merchant, Denise	Electronic Records Management	Application Architect
Merril, Chris	Common Origination & Disbursement	Project Lead
Michl, Kyle	Enterprise Application Integration	Issues & Upgrades
Middleton, Erick	Students & Financial Partners Portal	Business Architect
Mongold, Randy	Postsecondary Education Participant System	Issues & Upgrades
	Postsecondary Education Participant	System Monitoring

Name	System	Role
	System	
Moore, Dave	FSA Intranet	FSA Sponsor
Morales, Lydia	Student Aid Internet Gateway	FSA Sponsor
Muncie, Mary	Students & Financial Partners Portal	Students Lead
O'Brien, Rana	Postsecondary Education Participant System	FSA Sponsor
Parbadia, Ashwin	Ombudsmen	System Monitoring
Peck, Paul	Common Origination & Disbursement	Technical Architect
Penyak, Steve	DLSS Web Site	Project Lead
Phillips, Sybil	Credit Management Data Mart	FSA Sponsor
Reddy, Ganesh	Enterprise Application Integration	FSA Sponsor
Robinson, Jeff	Central Processing System	Operations Account Manager
	FAFSA on the Web	Operations Account Manager
	Federal Family Education Program	Operations Account Manager
Ross, Jeff	Financial Management System	Issues & Upgrades
	Financial Management System	Technical Architect
Ryznar, Jerry	Common Origination & Disbursement	Operations Account Manager
	Enterprise Application Integration	Operations Account Manager
	FSA Intranet	Operations Account Manager
	Information for Financial Aid Partners	Operations Account Manager
	National Student Loan Database System	Operations Account Manager
	Postsecondary Education Participant System	Operations Account Manager
	Students & Financial Partners Portal	Operations Account Manager
Saunders, Jeanne	Central Processing System	FSA Sponsor
	FAFSA on the Web	FSA Sponsor
Schweikert, Tom	Information for Financial Aid Partners	Issues & Upgrades
	Information for Financial Aid Partners	Project Lead
	Information for Financial Aid Partners	System Monitoring
Shaffer, Nicole	Financial Partner Data Mart	Business Architect
Shantharaj, Madhu	Credit Management Data Mart	Application Architect
	Credit Management Data Mart	Data Architect
	Credit Management Data Mart	Technical Architect
Sheets, Deb	Student Aid Internet Gateway	Project Lead
Shina, Rob	eCampus Based	Application Architect

<b>Name</b>	<b>System</b>	<b>Role</b>
	eCampus Based	Business Architect
	eCampus Based	Data Architect
Stauffer, Josh	Financial Partner Data Mart	System Monitoring
	Information for Financial Aid Partners	Technical Architect
Steapp, Jamie	Student Aid Internet Gateway	Technical Architect
Stonner, Paul	Financial Management System	FSA Sponsor
Sullivan, Brian	Federal Family Education Program	FSA Sponsor
Tate, Kelly	Customer Relation Management 4 FSA	Project Lead
Taylor, Jim	Student Aid Internet Gateway	Application Architect
Thomas, Calvin	HR Modernization	FSA Sponsor
Thomas, Milton	eCampus Based	Issues & Upgrades
Thomas, Ray	eCampus Based	Operations Account Manager
Trahan, Kerry	eServicing	Project Lead
Urban, Theresa	eCampus Based	Issues & Upgrades
	Information for Financial Aid Partners	Business Architect
Usmani, Ahmad	Financial Partner Data Mart	Application Architect
	Financial Partner Data Mart	Data Architect
	Financial Partner Data Mart	Technical Architect
Ward, Colleen	Student Aid Internet Gateway	Issues & Upgrades
	Student Aid Internet Gateway	Project Manager
Wiley, Debra	Ombudsmen	FSA Sponsor
Wilson, Matt	Students & Financial Partners Portal	Project Lead
Zoldan, John	National Student Loan Database System	Project Lead