



# **SFA Portal V1.0**

## ***Requirements Document***

Version 1.1

June 12, 2000

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# 1.0 Overview

## 1.1 Summary

As part of the overall Modernization program, the office of Student Financial Assistance seeks to provide its School Channel customers (financial aid counselors and school administrators) with integrated, timely and user-friendly access to existing information databases and resources. These individuals and institutions currently work from multiple sources of data utilizing outdated technology. To better serve its customers, SFA has begun an effort to build an external School's Channel portal that will provide it's customers with one place to access all relevant information and to conduct their business using web technology.

SFA will build and deploy the portal in multiple phases. Functionality for version 1 is summarized here along with possible functionality for versions 2 and 3.

- *Version 1.0: A "plain Vanilla" portal which will include a searchable, integrated IFAP*
  - Links to 17 SFA websites along with capability for users to customize which sites they see and to add external sites (rudimentary customized "personal page")
  - Ability to search all sites from the portal itself
  - Personalization for the purpose of tailoring content to the user
  - "Single Logon" allowing pass-through of authentication information to websites (*pending*)
  - Target deployment date: 9/30/2000
  
- *Version 2.0: A customizable portal with re-engineered IFAP content*
  - IFAP content organized and upgraded to provide users with just the information they need , when they need it, in the way they need it – driven by process reengineering
  - Personalization for the purpose of tailoring content to the user
  - "Single Logon" allowing pass-through of authentication information to websites (*if not done in Version 1.0*)
  - Increased levels of personalization for automatically tailoring content to the user, leveraging the Autonomy product suite
  
- *Version 3.0: A "state of the art" portal with fully integrated access to content, community, tools and training*
  - Integrated access to all transaction data as well as relevant content (e.g., IFAP) in the context of the work the user is doing
  - Full "single logon" capability enabling ease of use and administration, rapid implementation of customer driven process changes, and increased levels of security

## 1.2 Scope of Work

The development team will build Version 1.0 of the portal focusing exclusively on portal technology. The scope of work has three objectives:

1. Develop the Version 1.0 business requirements functionality as directed by the School Channel team.
2. Design and build Version 1.0 on a scalable architecture and infrastructure that can support desired functionality for Versions 2.0 and 3.0 and a potential population of 26000 users executing roughly 100 million transactions a year
3. Complete this work in time for a 9/30/2000 rollout to approximately 26000 users, number of concurrent users yet to be determined

## 1.3 Approach

Given the scope of work, our approach will be to rigorously execute against the business requirements for Version 1.0 while also bringing our expertise in “state of the art” portals to assist SFA in achieving its goals in Versions 2.0 and 3.0 as rapidly as possible.

### Version 1.0 Functionality and High Level Analysis of Technical Requirements

The business requirements for Version 1.0 functionality are listed in Section 2.0. From our analysis to date, we can specify the following technical requirements and key elements of our approach:

- **Portal/website navigation:** We will “float” the linked SFA websites in the Portal to accommodate the functionality of minimal Y2K compliant IE and Netscape browsers. The Pell Grants site requires a minimal code change to accommodate the requirement to access websites within the Portal window. The code change involves removing this line of code:  

```
if (parent.frames.length > 0){parent.location.href = location.href; }
```

Since the initial requirements were done, there were 3 additional sites added that have not been screened for the above code.
- **Integrated Search:** We will adopt a parallel or cascading search approach through which Autonomy will leverage the capabilities of website search engines. Integrated search will be limited to content that can be accessed without a logon or password.
- **Customization:** We will provide two versions of a Portal home page; a standard Home Page which requires no logon and a customized Personal Page which will require a Portal level logon in order to store preferences unique to the user regarding which links they wish to see on their Personal Page
- **HW/SW requirements:** See Section 5.0
- **Content Management:** There is currently no content that is managed locally to the portal. All content is via links presented through either search or bookmark.

“Single logon” is no longer a requirement for Version 1.0. Our understanding at this point is that some investigation of what is doable under the passive solution or “scrape and cache” should be pursued. There is also still a developing requirement for a news-feed to be added to the Home Site and/or Personal Site, to be provided through Viador. Once this is finalized, it will captured in the technical requirements below.

## 2.0 Business/Functional Requirements

This section contains Business and Functional Requirements as delivered by SFA, along with additional Technical Requirements that have been identified as needed to support the Business Requirements. Business Requirement 9 will be addressed through user design sessions during the development process.

<i>Object Identifier</i>	<i>The business requirements as delivered by SFA</i>
BR1	The ability for schools to set up links to 5 websites on their home page (both SFA sites and non-ED sites).
BR2	Capacity for schools to select the links from SFA websites (as listed by the Schools Channel) to be shown on and accessible via their portal. Non-selected links would be hidden, with the capacity for the school to re-enter the set-up function at any time to re-select the status of links (shown versus hidden).
BR3	Home Page Layout and functions
BR4	Links to General Information Websites
BR5	Links to all Web-Based Operating Systems via multiple, required sign-ons.
BR6	Capacity to navigate sites by at least two, preferably three, means.
BR7	Ability to return to the portal from each of the linked sites
BR8	Flexibility in updating content grouping headers.
BR9	Alpha version of Portal for release to test Group of ten (10) schools by 7/30/00.
BR10	Capacity for users to input comments in two areas: one for comments on the portal and one for general SFA inquiries, with entered comments being automatically forwarded to a provided e-mail address.
BR11	Incorporation of authorized Federal Privacy Statement.
BR12	User conducted search for documents contained either in the portal or in a linked site directly from the portal; "key word" search within documents.
BR13	Minimum load time; optimally < 20 seconds by modem meeting the current SFA Configuration Standards.
BR14	Browser must be the lowest version that is Y2K compatible.
BR15	Capacity for users to access general information URLs without providing a log-on ID or password.

## 3.0 System Requirements

This table lists all of the requirements derived from the customer's Business and Functional Requirements. Definitions used in the requirements document are defined in the following table:

<i>Term</i>	<i>Definition</i>
SFA Portal	The complete set of pages that encompass the system, including: <ul style="list-style-type: none"><li>• The Home Site pages</li><li>• The Personal Site pages</li><li>• The Feedback page</li><li>• The Integrated Search page</li><li>• The Privacy Statement page</li></ul>
Home Site	The non-customizable, open site portion of the SFA Portal
Personal Site	The customizable, access controlled site portion of the SFA Portal
Access Controlled Site	Requires some form of user authentication for access
Open Site	Requires no user authentication for access

### 3.1 Sites

The SFA Portal shall provide access to the following set of web sites:

- The GAPS site (<http://gapsweb.ed.gov/>)
- The Pell Grants site (<http://www.pellgrantsonline.ed.gov/>)
- The NSLDS site (<http://nslsdfap.ed.gov/secure/logon.asp>)
- The Bulk Publication Ordering System site (<http://webprod.aspensys.com/education/epos/newbpos/default.asp>)
- The Application to Participate site (<http://www.eligcert.ed.gov/>)
- The IFAP site (<http://www.ifap.ed.gov>)
- The SFA Download site (<http://www.sfadownload.ed.gov/>)
- The SFA Tech Support site (<http://ed.gov/offices/OSFAP/sfatech/index.html>)
- The SFA Coach site (<http://http.ifap.ed.gov/sfacoach/index.html>)
- The QAP site (<http://www.ed.gov/offices/OSFAP/QAP/>)
- The FAFSA site (<http://www.fafsa.ed.gov>)
- The SFA Ombudsman site (<http://www.sfahelp.ed.gov/>)
- The Loan Consolidation site (<http://loanconsolidation.ed.gov>)
- The DL Origination site ([https://lo-online.ed.gov/lo\\_online/index.shtml](https://lo-online.ed.gov/lo_online/index.shtml))
- The DL Servicer site (<http://dlservicer.ed.gov>)
- The PEPS site (<http://www.ed.gov/offices/OSFAP/PEPS>)
- The CAMS site
- The SFA University site (<http://www.ed.gov/offices/OPE/announce/trng>)

### 3.2 Home Site

The Home Site encompasses the non-customizable pages that are open to all users without the need for authentication. The Home Site is the gateway to the SFA Portal.

- The SFA Portal shall provide a Home Site
- The Home Site shall be an Open Site

- The Home Site shall provide information on Personal Sites
- The Home Site shall provide information on navigating through the portal
- The Home Site shall provide information on obtaining Personal Site access
- The main page of the Home Site shall be directly accessible
- The main page of the Home Site shall provide access to the Login Page
- The main page of the Home Site shall provide access to the Integrated Search interface
- The main page of the Home Site shall provide info and links on downloading the best browsers for viewing the site (IE5.x, and the latest Netscape version available)
- The main page of the Home Site shall provide access to the Feedback page
- The main page of the Home Site shall provide access to the Privacy Statement page

### **3.2.1 Calendar of Events Area**

The Calendar of Events area is an area on the Home Site main page that contains a calendar listing of upcoming events. The text that appears in this area will be maintained by SFA. This area shall be easily maintainable by SFA staff on a frequent (possibly daily) basis.

- The main page of the Home Site shall contain an area that displays an SFA Master Calendar of Events.
- The Calendar of Events shall display one month of events at a time
- The Calendar of Events shall allow users to navigate through the calendar in one month increments
- The Calendar of Events shall allow users to display the current month of events
- The Calendar of Events shall allow users to navigate directly to a given month
- The Calendar shall provide SFA the ability to hyperlink from the Calendar to related documents or other sections of the Portal or other sites.
- The Calendar of Events shall list events grouped into categories.
- The Calendar of Events area shall be composed of a scrolling text area containing the events in chronological order
- The Calendar of Events shall provide SFA staff the ability to assign a time span to a calendar event. For example, an event may need to be posted from June 1 through June 8.
- The Calendar of Events shall provide SFA staff the ability to make display of a calendar event mandatory for all users.
- The Personal Site shall provide a Calendar of Events that can be filtered by the user to only show calendar events that are of categories of their choosing with the exception of calendar events that have been marked as mandatory.

### **3.2.2 Headlines Area**

The Headlines area is an area on the Home Site main page that contains a list of important “What’s New” information and other important news briefs for the day or week. The text that appears in this area will be maintained by SFA. This area shall be easily maintainable by SFA staff on a frequent (possibly daily) basis.

- The main page of the Home Site shall contain an area that displays a set of Headlines or News Briefs.
- The Headlines area shall include overall ED news, as well as sections specifically related to the Schools Channel, the Students Channel and the Financial Partners channel.
- The Headlines area shall provide SFA staff the capability to assign a category to a news event.
- The Headlines area shall be displayed as a categorized bullet list of information.
- The Headlines area shall provide SFA staff the ability to assign a time span to a news event. For example, a news event may need to be posted from June 1 through 8 only.
- The Headlines area shall provide SFA staff the ability to make display of a news event mandatory for all users.
- The Personal Site shall provide users with a Headlines area that can be filtered by the user to only show news events that are of categories of their choosing, with the exception of events that have been marked as mandatory.

### 3.2.3 Links Area

The Links area is an area on the Home Site main page that contains a list of links to the web sites, organized into a categorized list. These links shall be identified as the "SFA Links"

- The main page of the Home Site shall provide an organized list of links to all of the web sites
- The list of links shall contain a category titled "Exchange Data" which contains the following links:
  - A link to the LO(Direct Loans Batch Files) site
  - A link to the NSLDS site
  - A link to the Pell site
  - A link to the QAP site
- The list of links shall contain a category titled "Check Student Records" which contains the following links:
  - A link to the LO(Origination Record and PLUS Credit Check) site
  - A link to the Pell Grants site
  - A link to the NSLDS site
  - A link to the DLSS site
  - A link to the FAFSA site
  - A link to the Loan Consolidation site
- The list of links shall contain a category titled "Book Store" which contains the following links:
  - A link to the Order Bulk Publications For Students site
  - A link to the Order Technical Publications site
  - A link to the SFA Download site
  - A link to the PEPS site
- The list of links shall contain a category titled "Training/Conferences" which contains the following links:
  - A link to the Direct Loan Conferences site
  - A link to the Quality Assurance Conferences site
  - A link to the Electronic Access Conferences site
  - A link to the SFA Coach site
  - A link to the SFA University site
  - A link to the NASFAA training site (need URL)
  - A link to the NACUBO training site (need URL)
- The list of links shall contain a category titled "Online Library" which contains the following links:
  - A link to the SFA Handbooks site
  - A link to the CFRs site
  - A link to the DPL site
  - A link to the QAP site
  - A link to the SFA Tech Support site
- The list of links shall contain a category titled "Contact Us" which contains the following links:
  - A link to the SFA Ombudsman site
  - A list of Current Phone #'s & E-Mails IIS, CAMS, IFAP Contact List, CASE Teams
- The list of links shall contain a category titled "Program Participation and Funding" which contains the following links:
  - A link to the E-App site
  - A link to the FISAP site
  - A link to the GAPS site
  - A link to the PEPS Institutional File site

### **3.3 Login Page**

The Login Page is the mechanism by which users gain access to their Personal Site and by which preferences are associated for the Personal Site.

- The SFA Portal shall provide a Login Page
- The Login Page shall be an Open Site
- The Login Page shall be directly accessible
- The Login Page shall require the user to enter their SFA Portal login name
- The Login Page shall require the user to enter their SFA Portal password
- The Login Page shall provide access to the Personal Site associated with the login name and password
- The Login Page shall inform the user if the login name and password do not match and of the method needed to contact the system Help Desk
- The Login Page shall provide a mechanism to allow users to create their own SFA Portal Account by which they are able to gain access to their Personal Site.

### **3.4 Personal Site**

The Personal Site is the set of customizable home pages that is open to authenticated users. Users have a large degree of control over the appearance of this page.

- The SFA Portal shall provide a Personal Site
- The Personal Site shall only be accessible once the user has been authenticated through the Login Page
- The Personal Site shall provide a mechanism for the user to change their SFA Portal password
- All Personal Site pages shall provide access to the Feedback page
- All Personal Site pages shall provide access to the Integrated Search interface
- The main page of the Personal Site shall display the user's customized list of personal bookmarks
- The main page of the Personal Site shall display the user's customized list of sites
- The main page of the Personal Site shall display a Calendar of Events that can be filtered by category.
- The main page of the Personal Site shall display a Headlines section that can be filtered by category.
- The Personal Site shall provide a mechanism for users to filter events displayed in their Calendar section by category.
- The Personal Site shall provide a mechanism for users to filter news events displayed in their Headlines section by category.
- The Personal Site shall provide information on how to customize the Site list
- The Personal Site shall provide information on how to customize the list of Personal Bookmarks
- The Personal Site shall provide information on how to apply filters to the Calendar
- The Personal Site shall provide information on how to apply filters to the Headlines
- The Personal Site shall provide information on how to change your SFA Portal password.

### **3.5 Feedback Page**

The Feedback Page provides a mechanism for users to inquire about SFA or to send feedback regarding the SFA Portal to portal administrators

- The SFA Portal shall provide a Feedback Page
- The Feedback page shall provide a mechanism for the users to send feedback regarding the SFA Portal to the Portal administrators
- The Feedback page shall provide a mechanism for the users to send feedback containing general SFA inquiries to an SFA representative

### **3.6 Privacy Statement Page**

In accordance with federal regulations, the SFA Portal needs to inform users of their privacy rights. This Privacy Statement page will be accessible from the Home page and other pages as specified during design.

- The SFA Portal shall provide a Privacy Statement Page
- The Privacy Statement Page shall display the current version of the Privacy Statement

## **4.0 Technical Requirements**

### **4.1 Integrated Search**

- The SFA Portal shall provide an integrated search interface

#### **4.1.1 Search Submission**

- The Integrated Search interface shall allow the user to submit searches against all available targets indexed/spidered by the search engine
- The Integrated Search interface shall support natural language queries
- The Integrated Search interface shall support boolean keyword queries
- The Integrated Search interface shall provide a link to a Search Help page, which will include
  - An explanation of the construction of natural language queries
  - An explanation of the construction of boolean keyword queries

#### **4.1.2 Delivery of Search Results**

- The SFA Portal shall provide a mechanism for the user to view a list containing the results of their searches
- The SFA Portal shall provide a mechanism for the user to retrieve the target of a link in their list of search results

#### **4.1.3 Configuration of Search Indexing/Spidering**

- The search engine shall be configurable to use a distributed/parallel search wherever a web site provides an Autonomy index
- The search engine shall be configurable to index/spider all non-access-controlled URL-accessible content of sites that do not provide an Autonomy index

## **4.2 Customization**

- The SFA Portal shall allow the user to customize the content of the main page of their Personal Site

### **4.2.1 Personal Bookmarks**

- The Personal Site shall provide a mechanism for the user to add a URL to their list of personal bookmarks
- The Personal Site shall provide a mechanism for users to remove a personal bookmark from their list

### **4.2.2 Customizable Site List**

- The Personal Site shall provide a mechanism for the user to choose zero or more of the web sites to display on their customized page

## **4.3 Navigation**

- All sites external to the SFA Portal accessed through links in the Portal shall be displayed in a new window
- All sites internal to the SFA Portal accessed through links in the Portal shall be displayed in the current window

## **4.4 Single Logon**

Single logon is not a requirement for Version 1.0, however, the developers will investigate the items needed to implement Single Logon.

## 4.5 Administration

Certain parts of the system will require administration interfaces. These interfaces will not be accessible from the SFA Portal.

- The SFA Portal shall provide an interface allowing authorized users to define the content of the Headlines area
- The SFA Portal shall provide an interface allowing authorized users to define the content of the Calendar of Events area
- The SFA Portal shall provide an API which allows Calendar of Events information to be placed directly into the Calendar of Events database by an authorized user or system.
- The SFA Portal shall provide an API which Headlines information to be placed directly into the Headlines database by an authorized user or system.
- There could be an additional UI to administer single-logon information.

## 5.0 Hardware and Software Requirements

### 5.1 Development

#### 5.1.1 Hardware

##### 5.1.1.1 Development Server

The Development Server shall have the following minimum configuration:

- Sun Enterprise 3500 (Preconfigured Option)
- 4 CPUs at 400 MHz
- 30 GB of Internal Disk Space
- 4GB of Main Memory
- All other options are preconfigured

##### 5.1.1.2 Development Desktops

The Development Client desktops shall meet the following minimum requirements:

- Intel Pentium III processor 667MHz or greater
- 256MB 133MHz SDRAM-2 DIMMs or greater
- 30GB ATA-66 (7200 RPM) hard drive or greater
- Ultra ATA-66 32 bit local bus integrated controller
- 40X var. speed IDE CD-ROM drive or greater
- 1.44MB 3.5in floppy drive
- 32MB Nvidia TNT2 Pro AGP
- 17" Micron 700Dx display 16" viewable
- 128-Voice PCI Wavetable onboard sound (Millennia)
- ALTEC LANSING.ACS33.3 PIECE.SPEAKER
- 3COM 3C905C 10/100 PCI Network Card (Rev 5.2)
- 104 Key Enhanced Keyboard
- Wheel Mouse

#### 5.1.2 Software

All software present on the production machines should be present on the development machines

- Viador version 6.1 or higher shall be installed on the development server
- Autonomy Knowledge Server Update 2.0 or higher shall be installed on the development server
- IBM WebSphere version 3.0.1 or higher shall be installed on the development server
- Oracle version 8 or higher shall be installed on the development server
- JDK version 1.1.8 or higher shall be installed on the development desktops and server
- All of these Y2K-compliant Web browsers shall be installed on the development desktops:
  - Netscape Communicator Version 4.6
  - Microsoft Internet Explorer Version 4.01 Service Pack 2

## 5.2 Production

### 5.2.1 Hardware

The production hardware cannot be finalized until information is obtained on VDC infrastructure, scalability of the software, and number of concurrent users is determined. The following represents our estimate of the hardware, based on a user base of 26000:

- 400 concurrent users, steady state (>1min)
- 1000 concurrent users, peak (<1min)
- 8% search – making direct use of the Autonomy engine
- 20% Portal Functions – making use of login, personalization, and any other non-search portal applications.
- 72% Click-through – accessing SFA sites via windows floated through the Portal

With these estimates, the following production capacity is required, at a minimum:

- Sun Enterprise 3500 (Preconfigured Option)
- 4 CPUs at 400 MHz (Ultrasparc II or better)
- 30 GB of Internal Disk Space, RAID 5
- 2GB of Main Memory
- tape backup
- All other options are preconfigured

### 5.2.2 Software

- Viador version 6.1 or higher shall be installed on the production system
- Autonomy Knowledge Server Update 2.0 or higher shall be installed on the production system
- IBM WebSphere version 3.0.1 or higher shall be installed on the production system
- Oracle version 8 or later higher be installed on the production system
- JDK version 1.1.8 or higher shall be installed on the production system
- The Portal software will be delivered via a configuration management application that is yet to be determined. Exolve will define this environment before 6/30.
- It is expected that the VDC will be responsible for the operation of all maintenance required by the products on this list. For example, the Oracle database will need to be backed up on a regular basis, using native Oracle utilities. The specification for when and how this will be accomplished is beyond the scope of this document.

## 5.3 Client

### 5.3.1 Hardware

- The only requirement for the client is that it adhere to the minimum required standards for the compliant browser that is intended to be used. The list of compliant browsers is presented in 5.3.2.

### 5.3.2 Software

- The client platform shall use at least one of these Y2K-compliant Web browsers:
  - Netscape Communicator Version 4.6 or higher
  - Microsoft Internet Explorer Version 4.01 Service Pack 2 or higher

## **6.0 User Interface Requirements**

### **6.1 Usability**

- The SFA Portal shall conform to the SFA Intranet Content Management Usability Guidelines Draft, dated 4/18/2000

### **6.2 Performance/Reliability**

No performance and reliability requirements have been established at this time.

### **6.3 Accessibility**

- The SFA Portal shall conform to Level A of the W3C Accessibility Guidelines, dated 5/5/1999 with the exception that the Personal Site will not render correctly if the client browser does not support Applets. This is due to the fact that the authentication mechanism for gaining access to the Personal Site is handled by Viador. Viador requires an Applet to be running in the background of the client's browser in order to function properly. If the client system does not support applets then Viador will not be able to run correctly and the user will not be able to access their Personal Site.
- If the client system does not support applets, the user's access to the Home Site will not be affected nor will the user's ability to access any of the Sites be affected