



**Department of Education
Financial Student Assistance
Financial Partners**

Financial Partners Data Mart Release 2

FP Data Mart Design – Release 2

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1 Introduction

1.1 Purpose

The Financial Partners Channel is continuing with a major Modernization program in the business, technical and organizational aspects of its operations. The overall goal is to realize the efficiency of core processes and functions while improving partner satisfaction and employee satisfaction levels. One major objective of the FP Transformation is to attain better insight into information related to key business functions including Risk Management, Customer Relationship Management, Compliance Management, and Portfolio Management.

Current disparate systems within FSA contain data to support some of these key business functions; however, it is difficult and costly to obtain the appropriate information in a timely manner. Providing a central location of necessary information within the Channel is required to support these key functions. The FP Data Mart is positioned to be that central location for information associated with student lending among Financial Partners including Guaranty Agencies, Lenders, and Servicers participating in the Federal Family Education Loan (FFEL) Student Loan Program.

The FP Channel is responsible for both current and retired loan programs and, as such, is under customer and program obligation to ensure the capture and comparative ability of all programs. By collecting information from several sources into a central location, personnel in the Channel, as well as external partners, will be able to more efficiently identify areas in which each party may assist the other while improving the support for borrowers within the FFEL Program.

The objective of FP Data Mart Release 2 is to provide tools that can be used both by FSA users for GA, Lender, and Servicer oversight and by GA users for self-monitoring. Release 2 will also focus on using the Enterprise Application Integration (EAI) architecture to automate the transfer of data from the following source systems:

- National Student Loan Data System (NSLDS)
- Postsecondary Education Participants System (PEPS)
- FSA Financial Management System (FMS).

1.2 Key Business Functions

The objective of the Financial Partners Data Mart is to provide executive information and decision support capabilities around several key business functions.

- Risk Management – Targeting areas of fiscal risk to FSA and its Financial Partners (i.e., Guaranty Agencies, Lenders and Servicers). Monitoring Financial Partners' operating performance (risk factors) to identify and focus on areas of risk and the need for technical assistance. Reducing the time required between identifying risk areas and implementing solutions.

- Customer Relationship Management - Increasing routine, positive communication with external Financial Partners by providing information regarding their performance between review cycles. Assist GAs in reviewing lenders by providing additional information.
- Compliance Management – Focusing performance reviews to those Financial Partners that are not performing in accordance with standards and/or regulations. Improving the efficiency of review planning and analysis activities associated with the review process.
- Portfolio Management – Identifying and assessing the portfolio mix to improve policy decisions. Improving the efficiency and effectiveness of trend analysis by providing calculated benchmarks, where appropriate.

1.3 Scope

Release 2 of the FP Data Mart involves the following significant increases in scope from Release 1:

- Development of a Lender Risk Scorecard
- GA user access to the data mart
- Automated data feeds from FMS, NSLDS, and PEPS.

NSLDS and PEPS data will be extracted to support the Lender Risk Scorecard and supporting detailed reports. FMS data will be extracted to provide information on Guaranty Agencies (Form 2000, VFA) and State Agencies (LEAP/SLEAP).

1.4 Overview of Project Approach

This project will use the data mart architecture that was established within the Financial Partners Channel during Release 1 of the FP Data Mart. This release of the FP Data Mart will create additional database tables and load those tables, create additional reports, establish processes to periodically update the data, and refresh the training provided to the FP Power Users and end users. In order to accomplish these several tasks are required:

- Determine user requirements. Prior work within the FP Channel was referenced as a starting point for building requirements. Additional requirements were collected during user working sessions. This also includes the design of pre-defined reports.
- Determine technical requirements. Some technical requirements were already understood as they relate to the data mart architecture. Additional technical requirements were collected during technical working sessions.
- Develop the logical data model. This involved understanding the user requirements in order to develop a logical data model from a data mart perspective.
- Determine data mart tables required to support the requirements. This involved understanding database design as it relates to data marts and designing the database tables that support the user requirements.
- Determine the source of data to support the requirements. This involved working with the NSLDS, FMS, and PEPS system application ED staff and maintenance contractors to understand the current location of the data that will be required for the data mart. This

- also involved what transformation/reorganization of the data was required to appropriately map it to the data mart tables.
- Design the extract processes from the FMS, NSLDS, and PEPS systems. This involved working with the source system developers to design programs/queries to extract the information that was identified from the source system.
 - Code and execute extract programs. This involved converting the extract program/queries designs into executable programs and actually creating the extract files.
 - Map the source data to the target data mart tables. This involved using the Informatica COTS tool to map the data contained within the extract files to the actual data mart fact and dimension/lookup database tables. The database structure between the source systems (and the sequential files) is different than the database structure of the data mart. The mapping may result in several situations: one source record mapped to many fact table rows, one source record mapped to one fact table row, many source records mapped to one fact table row.
 - Create the pre-defined reports. This involved using the Microstrategy COTS tool to create the pre-defined reports that were identified in the 'determine user requirements' task.
 - Test the data mart application. Several levels of testing are involved: unit, system, product, and stress. Identification of items to be tested at each level as well as verification to expected results will be conducted.
 - Develop and conduct training. This involves working with FSA team members to develop/update training for end-users (including the GA end users) and conducting a course on how to use the new reports.
 - Deploy the application. This involves preparing for and conducting the necessary reviews to migrate the application into production, actually migrating the application into production and verifying a correct migration, and providing some post-production support.

1.5 FP Data Mart User Groups

The FP Data Mart user groups have been defined as follows:

FP Channel users (internal users) - these people will use the Microstrategy web interface and will be able to execute reports. These people may access the reports from either the FSA intranet or the Internet. FP Channel management will approve the access of individual data mart users. It is expected that no more than 70 people will be in this group.

FP Channel power users (internal users) - these people will usually use the Microstrategy web interface to execute reports from either the FSA intranet or the Internet. They will also have the Microstrategy desktop software on their desktops at work so that they can create new reports and modify existing reports. This implies that they will be updating the Microstrategy repository. These users received additional detailed training from Microstrategy prior to the start of Release 2.

Other FSA users (internal users) - these people will use the Microstrategy web interface and will be able to execute reports. These people may access the reports from either the FSA intranet or the Internet. FP Channel management will approve the access of individual data mart users. It is expected that no more than 30 people will be in this group.

External financial partners (external users) - these people will use the Microstrategy web interface and will be able to execute reports using the Internet. This group includes Guaranty Agencies, Lenders, Servicers, student lending industry associations and organizations such as NCHELP, SLSA. Access by this group will be limited to appropriate reports and data, in compliance with the Information Privacy Act. (It is expected that no more than four people from each Lender, GA, Servicer, or association will be in this group.) For Release 2, only those representatives from GAs will have access to the data mart.

1.6 Overview of the Data Mart Architecture

NSLDS, FMS, and PEPS will serve as the next source systems for data for the FP data mart. The initial load of historical information extracted from the FMS system for Guaranty Agencies, FMS, and PEPS will perform a routine extract of activity that occurred in these systems from the last time that the extract programs were executed. NSLDS data will be extracted as a 'snapshot' instead of as extracting only the 'incremental changes'. This data will be exported from the source system and placed on the Informatica server using the EAI architecture. Informatica will perform the necessary transformations and then load the data into Oracle, and populate the FP data mart. This data mart will be accessed by the Microstrategy Intelligence Server to satisfy user requirements that are sent via a web interface. The internal users will access the FP Data Mart directly through FSA's intranet. Below is the diagram of the FP Data Mart architecture. External users will be authenticated prior to allowing access to the FP Data Mart. The project team is working with other FSA and Modernization Partner security and architecture personnel in order to determine a common approach to authentication.

For more information on FSA's approach to data warehousing and data marts, please refer to the *FSA Technology Policy and Standards Guide* – specifically section 4.3 Enterprise Data Management.

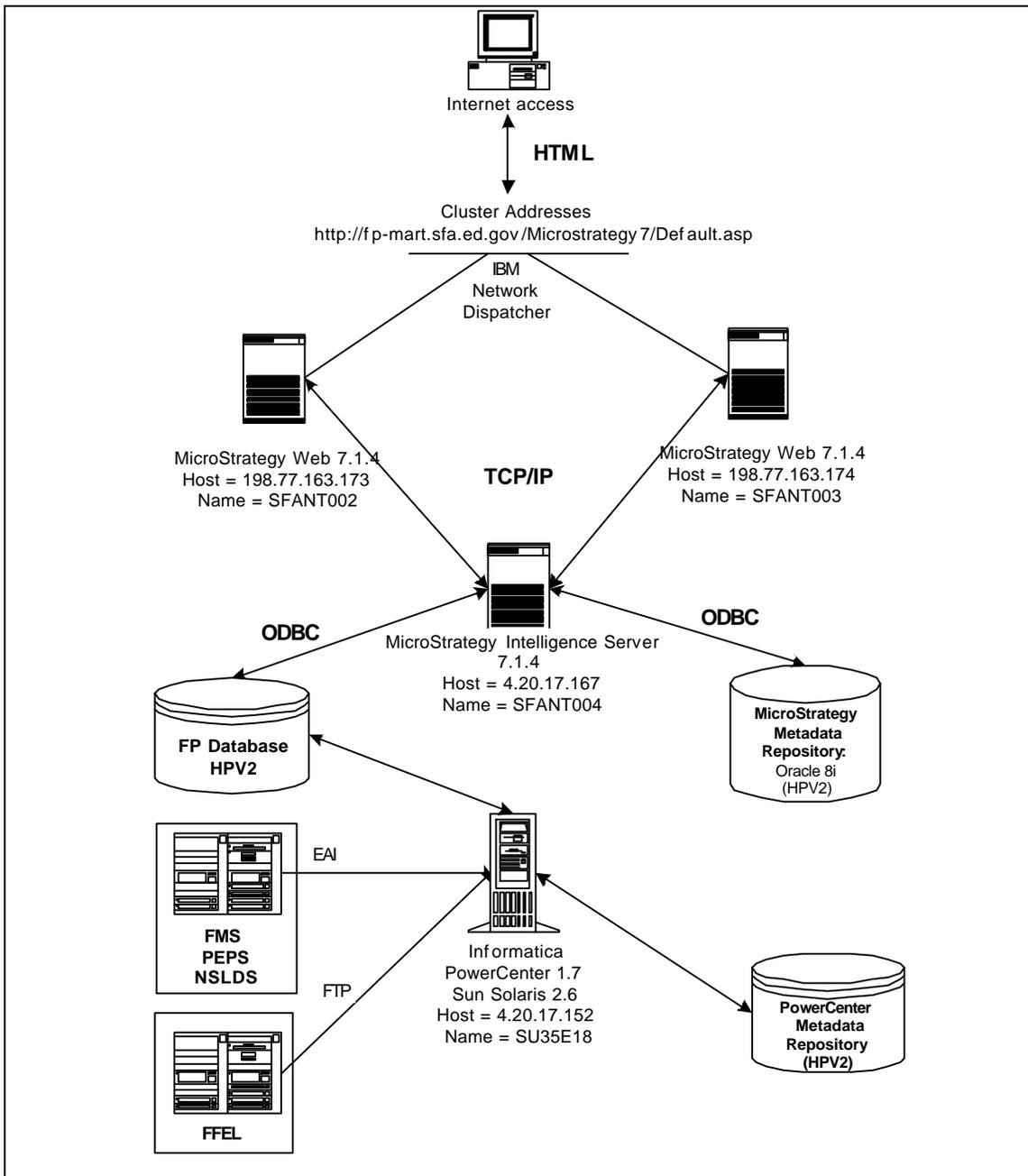


Figure 1: Data Mart Architecture

The FP Data Mart effort utilizes many new tools, architectures and processes, including:

- ◆ **User interface via Microstrategy software** - Microstrategy software, a Commercial Off the Shelf (COTS) tool, will provide the front-end user interfaces that allow reporting and On-Line Analytical Processing (OLAP), and the back-end processing including Structured Query Language (SQL) generation, load management, and report scheduling.

- ◆ **Deployment over the web** - Utilizing FSA's intranet for FP Channel staff and the internet for external organizations, users will be able to log onto Microstrategy software through a web browser. No client-server software installations will be necessary for web-based access to the FP Data Mart.
- ◆ **Use of the Virtual Data Center (VDC)** - The VDC will house the Data Mart development, test and production database and production software servers.
- ◆ **Data acquisition using Informatica** - Informatica, a COTS tool, will use data acquired from the NSLDS, FMS, and PEPS systems. Informatica will read the source data and make the necessary "transformations" to load and populate the FP Data Mart.

2 Report Design

2.1 Requirements

The step to determine/verify user requirements involved conducting many user-working sessions. During these sessions, discussion ranged from what information exists in the NSLDS, FMS, and PEPS systems, determining which system should be used as a source if the information exists on several systems, whether or not the information was useful during analysis, the fields to appear on the pre-defined reports, the amount of history that was required, etc. Personnel from areas other than the FP Channel were invited to attend and to provide input into these user-working sessions.

The Requirements document was used as a starting point for the Design phase. During the Design phase, additional design information was added to the requirements document. The updated Requirements document serves as the detail design for the pre-defined reports for Release 2. The updated Requirements document is included as Appendix A. This document includes items such as the sources of data; frequency of updates; identification of specific reports including the 'facts', 'attributes', and 'dimensions' for each report; performance; availability; concurrency; and security. It was decided by the IPT members that the actual report layout was not required for the design document. The rationale for this decision was the ease with which the layouts could be manipulated within Microstrategy. The layouts of the reports will be developed to contain all required data. The key users will review and approve the actual report layout prior to the report entering the testing task.

2.2 Prioritization

The pre-defined reports were prioritized in order of importance to assist in development planning and scheduling. The Modernization Partner will develop the following twelve reports. All of these reports will be available prior to Release 2 deployment, currently scheduled for May 20, 2002.

Priority	Report
1	Lender Scorecard (including the underlying detail reports)
2	GA VFA Performance Measures
3	GA VFA Fees
4	GA Fee Payments
5	Lender Portfolio Percentage by GA
6	GA Requested and Paid Fees
7	GA Fee Payments History
8	GA Delinquency Aging
9	GA Closed School and False Certification Claims
10	GA Subrogated Loan Candidates
11	School Change in Loan Status
12	FMS-NSLDS Cross-Check

Table 1: Reports to be Developed by The Modernization Partner

The pre-defined reports assigned to the FP Data Mart Power Users are included in the table below. Any of these reports that have not been completed by the Release 2 deployment will be developed on an ongoing basis and added to the Production environment after testing has been completed.

Priority	Report
1	GA Federal Fund
1	GA Operating Fund
1	GA Restricted Account
1	GA Monthly
1	GA Monthly/Quarterly
1	GA Annual
2	GA VFA Weekly
3	GA Annual Trigger Rate
4	GA Monthly Trigger Rate Trend
5	GA Net Receivable
6	Top 10 / 2% Lenders by GA
7	GA Market Share by State
8	GA Monthly Summary
9	GA Annual Comparative
10	Lender Servicer Portfolio
11	LEAP/SLEAP National Summary
12	LEAP/SLEAP Actual Award

Table 2: Reports to be Developed by Power Users

Report	Fact Table
FMS-NSLDS Cross-Check	F_FM2000_ANNL
GA Annual	F_FM2000_ANNL
GA Annual Comparative	F_FM2000_ANNL
GA Closed School and False Certification Claims	F_CLM_PD
GA Delinquency Aging	F_FM2000_MNTH_QTR
GA Federal Fund	F_FM2000_ANNL
GA Fee Payments	F_GA_INVOICES F_FM2000_ANNL
GA Fee Payments History	F_GA_INVOICES
GA Market Share by State	F_FFEL_LOAN
GA Monthly	F_FM2000_MNTH
GA Monthly Summary	F_FM2000_MNTH_SUM
GA Monthly Trigger Rate Trend	F_FMS_TRG
GA Monthly/Quarterly	F_FM2000_MNTH_QTR
GA Net Receivables	F_FM2000_ANNL
GA Operating Fund	F_FM2000_ANNL
GA Requested and Paid Fees	F_GA_INVOICES
GA Restricted Account	F_FM2000_ANNL
GA Subrogated Loan Candidates	F_FFEL_LOAN
GA VFA Fees	F_VFA_RPT
GA VFA Performance Measures	F_VFA_PERF_RPT
GA VFA Weekly	F_VFA_RPT
LEAP/SLEAP Actual Award	F_LEAP_SLEAP_AWRD
LEAP/SLEAP National Summary	F_LEAP_SLEAP_SUM F_LEAP_SLEAP_ANNL
Lender Audit Results	F_LNDR_AUDIT F_LNDR_AUDIT_DFCNCY
Lender Change in Loan Status	F_FFEL_LOAN
Lender Cohort Default Rate	F_LNDR_DFLT_RATES
Lender Portfolio Percentage by GA	F_FFEL_LOAN
Lender Program Review Results	F_LNDR_RVW F_LNDR_RVW_DFCNCY
Lender Scorecard	F_LNDR_SCORECARD
Lender Servicer Portfolio	F_FFEL_LOAN
School Change in Loan Status	F_FFEL_LOAN
Top 10 / 2% Lenders by GA	F_FFEL_LOAN

Table 3: Mapping of Reports to Fact Tables

4 Data Acquisition and Data Mapping

This section describes how the data will be received, staged (into a staging area), transformed and loaded into the FP Data Mart. It also describes the data quality assurance and error handling processes. Data acquisition typically uses COTS tools, which specialize in this function. This section also provides the data mapping from the NSLDS, FMS, and PEPS systems to the FP Data Mart.

4.1 Data Acquisition Design

Data acquisition, which is also known as extract-transform-load (ETL) consists of three steps:

1. **Extraction** - is the process of acquiring data from one or more systems for the purpose of loading a data mart. In the FP data mart architecture, NSLDS, FMS, and PEPS will send one or more files on a monthly basis to the data mart's staging area. Informatica will then work against this data to validate and cleanse it before loading into the FP data mart.
2. **Transformation** - is a general term for cleansing and validating incoming data, which includes: handling missing elements, looking up tables, aggregating rows and standardizing field formats. In the FP data mart architecture, Informatica will handle these types of transformations and field-to-field mappings.
3. **Loading** - there are two ways to load data: record-by-record through the Informatica Server Manager or through the Oracle Bulk Loader utility. In the FP data mart architecture, we will only be adding data, never updating or deleting specific records. Therefore, we will use the Oracle Bulk Loader utility, as necessary, to load the fact tables.

4.2 Data Acquisition Process

The NSLDS, FMS, and PEPS systems were identified as the source systems for the second release of the FP Data Mart. Based upon the end user requirements, queries/extract programs were designed and the corresponding data was extracted from the source systems. These programs produced sequential files that were made available to the EAI architecture. The files were then transmitted to the Informatica server and were used by the Informatica ETL process.

Some of the data to support the 'lookup' tables was either extracted from the source systems or created using a spreadsheet. This data was then loaded directly into the data mart tables. As the Informatica processes execute in production, they will add new codes to these 'lookup' tables. However, they will not know the associated 'description' to associate with the 'code'. A default description of 'unknown' will be entered for the 'description' field. A process will be developed to routinely query these 'lookup' tables to identify where better descriptions are required.

Refer to the Source to Target Mapping document included as Appendix C to identify the actual data to be extracted.

4.2.1 FFEL

The FFEL system was the source system for the first release of the Data Mart. The existing approach and frequency to extracting information from the FFEL system and transferring it to the Informatica server remains unchanged as a result of Release 2.

4.2.2 FMS

Data that has been added or changed since the last execution of the extract programs/queries will be extracted and transmitted using the EAI architecture to the Data Mart's Informatica server. The extract is expected to occur on a monthly basis. The FP Data Mart will extract data related to Guaranty Agencies (Form 2000, VFA) and State Agencies (LEAP/SLEAP) from FMS.

The GAs and State Agencies already use the FMS system. A 'conversion' of this 'historical data' from the FMS system will occur for Form 2000, VFA forms, and LEAP/SLEAP forms.

For a list of tables and columns that will be extracted, reference Appendix C: Source to Target Mapping.

4.2.3 NSLDS

The data extracted from NSLDS will be a 'snapshot' of the data instead of extracting only the 'changed' data. The 'snapshot' will be extracted monthly and transmitted using the EAI architecture to the Data Mart's Informatica server. The FP Data Mart will extract data related to student loans associated with Lenders, Guaranty Agencies, Servicers, and Schools from NSLDS.

For a list of tables and columns that will be extracted, reference Appendix C: Source to Target Mapping.

4.2.4 PEPS

Data that has been added or changed since the last execution of the extract programs/queries will be extracted and transmitted using the EAI architecture to the Data Mart's Informatica server. The extract is expected to occur on a monthly basis. The FP Data Mart will extract data related to Lender audits, Lender program reviews, and School closings from PEPS.

For a list of tables and columns that will be extracted, reference Appendix C: Source to Target Mapping.

4.3 Error Handling

The error handling and validation processes were designed to provide the users with as much source system data as possible, that is, to load the target tables with the same data as the source systems. The challenge here is that the source systems have different data models from the data mart model. The error handling is designed to provide load level validation, that is, those rows which do not conform to the rules of *referential integrity** will be rejected (e.g., duplicative key fields, etc.). These rows will be written to an error file on the Informatica server. These error files can be viewed by subject matter experts to reconcile the error records.

**Referential Integrity - A feature is provided by relational database management systems (RDBMS) that prevents users or applications from entering inconsistent data. Most RDBMS have various referential integrity rules that can be applied when creating a relationship between two tables. For example, referential integrity would prevent adding a record to Table B that cannot be linked to Table A.*

4.4 Data Quality Assurance

The quality assurance steps listed below will help to ensure that complete and correct data is loaded to the FP data mart.

- ◆ Use the EAI architecture to transfer files from the source systems to the Informatica server. The EAI architecture will guarantee successful delivery of the file from the source system to the Informatica server thus reducing the requirement for manual verification of the number of records on the file in the source system to that on the Informatica server.
- ◆ Verify whether the incoming data has correct values: The software will check for spaces or nulls in the input columns. If there are spaces or nulls, the value 'unknown' or nulls will be assigned to the affected columns, so that the user will obtain correct and meaningful information from the FP data mart.
- ◆ Verify using random sampling and checking screens/queries on the source systems with corresponding reports in the data mart that the values are as expected.
- ◆ Verify the Informatica input file with the values in the FP Data Mart. The input file is loaded directly into a staging table in Informatica. SQL is used to sum columns in the staging tables with columns in the FP Data Mart tables.
- ◆ Verify valid keys for incoming data: Keys will be generated for those records that have invalid keys or no key values, using Informatica's Sequence Generator.

When loading the data mart, it is preferable when all of the identified source records are loaded into the data mart. If is possible however, that some types of records may enter the source system and be transferred to the data mart, and yet the data mart is not expecting that type of record. These records may enter into the source system as a result of an edit change or an enhancement that was applied to the source system. This change may not have been communicated to the personnel maintaining the data mart system.

When a record from the source system contains information that the data mart does not expect, the following will occur:

1. For fields identified as 'code/decode' fields, the Informatica process will use the value in the field from the source record and do a 'lookup' on one of the 'lookup tables'.
2. If the Informatica process finds a match, the record continues to be processed.
3. If the Informatica process does not find a match, it will add an entry to the 'lookup table'. The 'code' will be the value in the source record field. The 'decode' or description for the code will be set to 'Unknown'. The Informatica process will then continue processing the record.

5. Routinely after all monthly processes have completed on the data mart, a query will be executed against the 'lookup tables' to find all entries with 'decode'/description values of 'Unknown'. These situations will be further researched to determine what value should be used for the 'decode'/description and the description updated as appropriate. If it is determined that the 'code' should not have existed in the source record, then the data mart team will identify this situation to the owners of the source system so that they owners may appropriately address the issue.

If there are situations similar to the above where it is determined NOT appropriate to just 'add a code' to the lookup table, then this source record will be rejected and not loaded into the data mart. These records will be written to an error file or identified in some other way such that they can be further researched to identify the problem and the source of the problem.

5 Security Design

This section discusses User access to the FP Microstrategy project, database security, and row-level database security. The FP data mart will utilize Microstrategy's security functionality.

5.1 User Access to the FP Data Mart

When a request for access is approved, the System Administrator will create a userid and password for each individual user. Individual userids will be classified into subject matter groups. These groups are FP Channel users, FP Channel Power Users, other FSA, and external users. In addition, each user group can have its own privileges window to allow the system administrator to grant the desired privileges to either entire groups or individual users.

The System Security Officer (SSO) for the FP Data Mart project, in coordination with other project team personnel, coordinates the security plan and concerns with other FSA security personnel. The plan addresses the procedures for requesting and terminating user access, security considerations related to the Privacy Act and other applicable acts and laws, disaster/recovery, audit trails, data integrity, and application security requirements.

5.2 Database Security

The individual userids will be mapped to a back-end Oracle database login id. All users of the FP data mart could use one Oracle login id or different login ids mapped to groups. This scenario provides several advantages including:

1. Individual Oracle user ids will not have to be created for each individual user of the FSA/FP data mart
2. Groups can be assigned to individual Oracle userids. If certain groups of users have different Oracle database privileges, or if FSA wants to track usage by particular groups, this feature would be utilized.
3. Users of the FSA/FP data mart would not know the login id and password for the Oracle database. This provides enhanced security, since users will be unable to log into the database on other utilities such as SQL Plus.

5.3 Row-Level Database Security

There may be times when different users or groups can have access to the same data tables but management would want to restrict what rows they can access within the table. An example of this would be different Organizations accessing the GA Collection table. If management did not want an Organization to see another's data, they would have to implement row-level security.

Microstrategy enables this by allowing security filters to be created and applied to individual users or groups. In the above example, each Organization's users would be put in specific groups. The groups would have security filters applied that limited their query capabilities to only records whose

Organization code was in the filter. This security feature will be used for Release 2 as the GA end users will have access to the data mart.

6 Technical Architecture

6.1 Overview

A diagram of the technical architecture was included in Section 1.6 Overview of the Data Mart Architecture. The following sections give more detailed information on the actual hardware and software employed in the architecture.

6.2 Software Architecture

The following table illustrates the software components used to support the FP Data Mart:

Component	Version Information	Installation Tier	Number of Users
Operating System	Sun Solaris 2.6 HP UX 11.0 Microsoft NT 4.0	Application Server Database Server Application Server	
Compilers	None		
Internet Server	Microsoft IIS		50 concurrent
Database	Oracle 8.1.6	Database	50 concurrent
Application Server	Microsoft NT 4.0	Application	50 concurrent
Other Application Tools	Informatica 1.7	Application	1
	Microstrategy 7.1	Application	25 concurrent

Table 4: Software Architecture

6.3 Hardware Architecture

The following table illustrates the hardware components used in the Production environment of the FP Data Mart:

Application	Server Name	IP Address	Manufacturer
Database	HPV2	4.20.15.40	HP
Informatica Server	SU35E18	4.20.15.33	Sun
Microstrategy Intelligence Server	SFANT004	4.20.17.167	Compaq
Microstrategy Web Server	SFANT002	198.77.163.173	Compaq
Microstrategy Web Server	SFANT003	198.77.163.174	Compaq

Table 5: Hardware Architecture (Production)

The following table illustrates the hardware components used in the Development and Test environments of the FP Data Mart:

Application	Server Name	IP Address	Manufacturer
Database	HPV1	4.20.15.59	HP
Informatica Server	SU35E5	4.20.15.135	Sun
Microstrategy Server	SFANT001	4.20.15.244	Compaq

Table 6: Hardware Architecture (Development & Test)

6.4 Middleware Architecture

The following figure illustrates how the EAI Architecture will be used to transmit required data from the Release 2 source systems to the Informatica servers at the VDC.

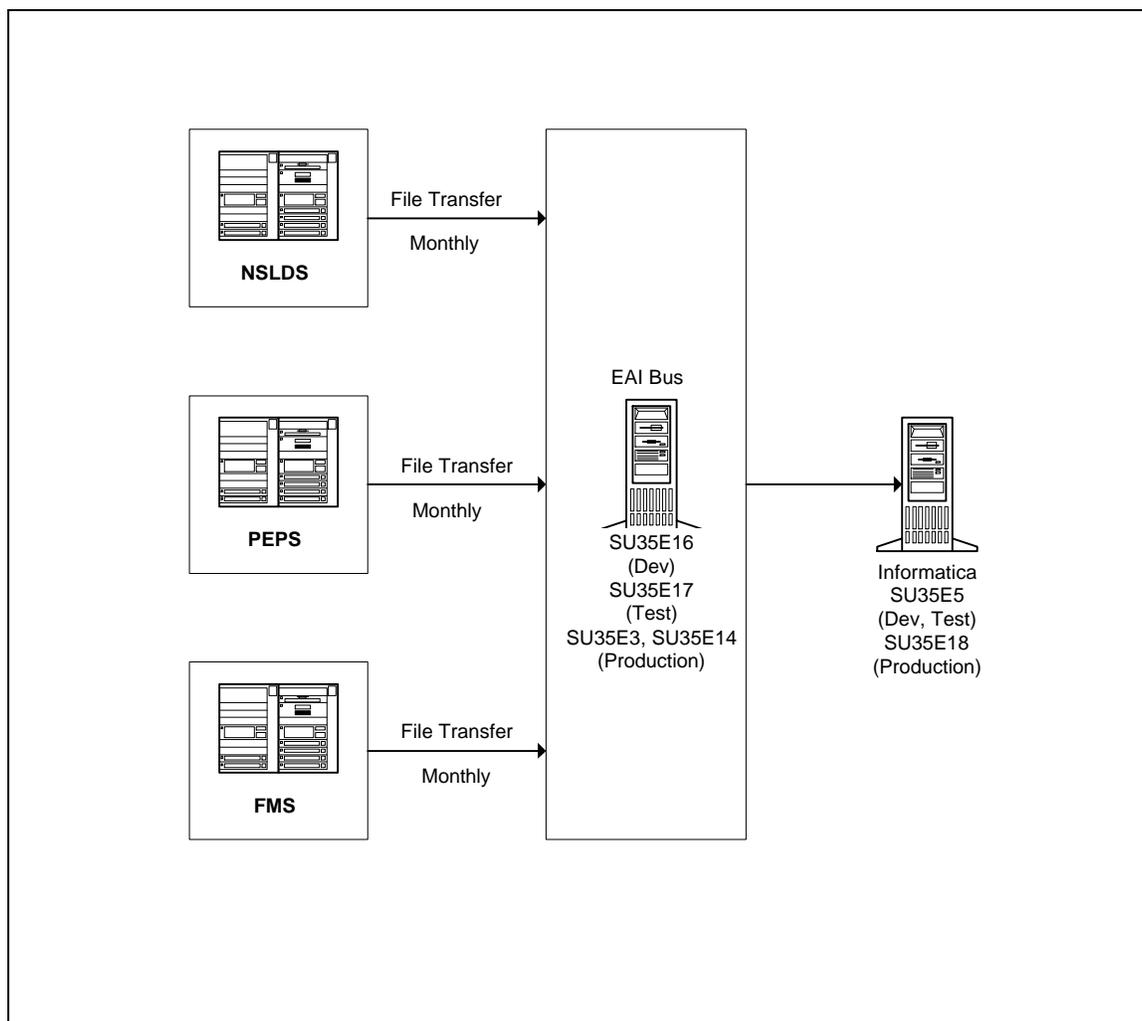


Figure 3: EAI Architecture

7 Impacts

7.1 Financial Partners

Building on the reports already available in the FP Data Mart, Release 2 will provide Financial Partners with additional capabilities for risk management, customer relationship management, compliance management, and portfolio management. Release 2 will provide additional reports for monitoring and oversight of GAs, Lenders, and Servicers. In particular, Release 2 will introduce a Lender Risk Scorecard, as well as reports that will provide further analysis of Form 2000, VFA, and LEAP/SLEAP data.

7.2 Schools

Two of the reports included in Release 2 will be of interest to the Schools Channel. The School Change in Loan Status report indicates, for a specified school, the number of loans that are still “In School” or “In Grace”, even though the enrollment status associated with the loan indicates that the loan should be in repayment. The GA Closed School and False Certification Claims report can help ensure that Closed School and False Certification claims are not paid for schools that are still open.

7.3 Guaranty Agencies

GA personnel will be able to access the FP Data Mart soon after the deployment of Release 2. They will be able to execute the same reports on their own performance that personnel in the Financial Partners Channel execute. GA users will be able to execute reports only on their own GA.

7.4 Source Systems

Data extraction programs/queries will execute on each source system (NSLDS, PEPS, and FMS) on a monthly basis. The results of each extract will reside in a file and be transmitted to the FP Data Mart Informatica server using the EAI architecture.

7.5 VDC

Release 2 of the FP Data Mart will use the same servers as Release 1. Additional disk space will be added to each environment to support the additional required data. The amount of disk space requested is shown in the following table:

Environment	Current Size	Requested Increase	Proposed Total
Development	6.3 Mb	11.4 Mb	17.7 Mb
Test	7.4 Mb	12.9 Mb	20.3 Mb
Production	12.4 Mb	16.7 Mb	29.1 Mb
Total	26.1 Mb	41.0 Mb	67.1 Mb

Table 7: Additional Disk Space Requested for Release 2

Appendix A
Updated Requirements Document

Appendix B

Logical Data Model

Appendix C

Source to Target Mapping

Appendix D

Abbreviation List