



Department of Education / FSA

TO 128 - FMS to FMSS Data Transformation and Transfer Production Readiness Review

Production Readiness Review PRR

TO 128 – FMS to FMSS Data
Transformation And Transfer

FSA Integration Partner

June 20, 2003



- Business Case
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- Testing
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Business Case - FMS to FMSS Data Transformation And Transfer

The FMS to FMSS Data Transformation and Transfer Redesign effort was developed to improve the audit trail between the FSA General Ledger and the Dept of ED General Ledger. The effort includes the redesign of the fund allocation process and the automation of the data transfer from FMS to FMSS. The new process will improve the reconciliation process between the two systems.



FMS to FMSS Data Transformation And Transfer

Overview:

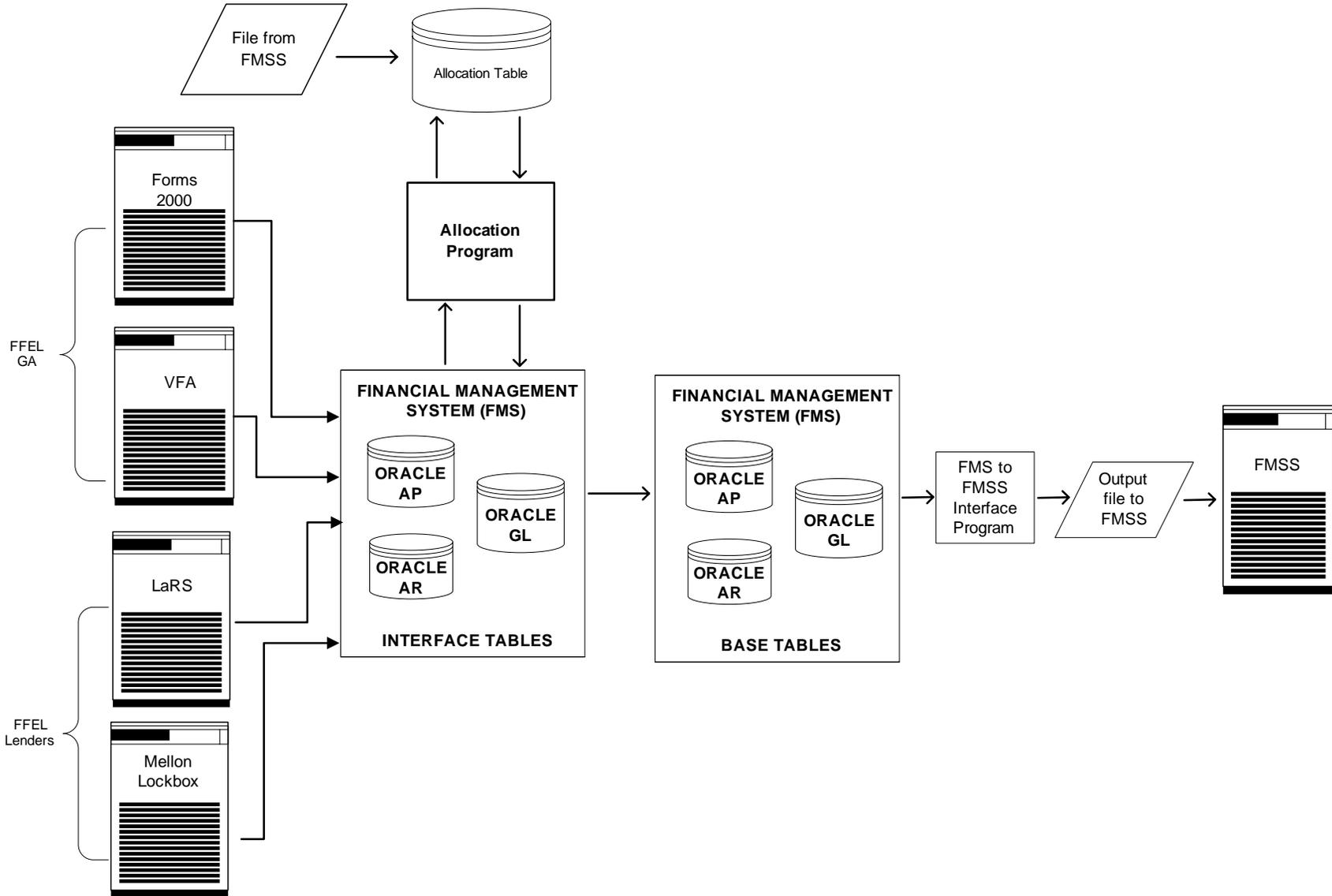
- The process enables the FFELGA and FFEL Lender transactions to be allocated according to the budgetary allocation between the Financing Fund (4251XNY) and the Liquidating Fund (0230XNY).
- The Allocation percentages are provided by Budget Service in a flat file via FTP, which is loaded into a custom allocation table.
- Triggers on the Oracle Open Interface Tables are used to allocate the transactions before being loaded into the Oracle Base tables.
- After performing validations to ensure that the format of the data meets the acceptance criteria, a new interface program transfers data from FMS to FMSS in a flat file (pipe delimited text file) via FTP.
- A notification report providing a summary of the batches processed is created and emailed to designated users.

Benefits:

- A batch level audit trail will exist by providing information to FMSS.
- The possibility of errors is reduced by minimizing the need for manual intervention.
- The need to maintain two set of books in FMS is eliminated.



Schematic of FMS to FMSS Data Transformation and Transfer Process





Allocation Program – FFELGA Interface

The Allocation Program will be utilized by the existing FFELGA Interfaces:

- **Form 2000 Monthly**

Transfers FFEL GA invoices to AP module and transactions to GL module.

- **Form 2000 Quarterly**

Transfers FFEL GA transactions to GL module.

- **VFA Weekly**

Transfers FFEL GA invoices to AP module.

- **VFA Fees**

Transfers FFEL GA invoices to AP module and transactions to GL module.



Allocation Program – FFEL Lender Interface

The Allocation Program will be utilized by the existing FFEL Lender Interfaces:

- **LaRS Interface**

Transfers FFEL Lender transactions to either the AR or the AP module.

- **Mellon Bank Lockbox Interface**

Transfers FFEL Lender receipts to the AR module.



Allocation Form and Table

- The Splitter Allocation Program populates the custom Allocation table with the allocation percentage file from Budget Service.
- The contents of the Allocation table can be viewed through the custom Allocation Form.
- The Allocation Form can only be queried. The data cannot be updated or deleted through the Form.

Splitter Allocation Form

Action Edit Query Go Folder Special Help

Splitter Allocation Form										
Financing Fund	Limitation	Object Class	Budget Fiscal Year	Liquidating Fund	Limitation	Object Class	Budget Fiscal Year	Financing Fund 4251XNY %	Liquidating Fund 0230XNY %	
4251XNY	B41	4103B	03	0230XNY	000	4103B	03	1	0	
4251XNY	BA7	4101G	03	0230XNY	B04	4101G	03	.944445	.055555	
4251XNY	BA7	4101H	03	0230XNY	B02	4101H	03	.977778	.022222	
4251XNY	BA9	3302C	03	0230XNY	B10	3302C	03	.933334	.066666	
4251XNY	BA9	4201B	03	0230XNY	B12	4201B	03	.955556	.044444	
4251XNY	BA9	4201C	03	0230XNY	B12	4201C	03	.933334	.066666	
4251XNY	BA9	4201D	03	0230XNY	B12	4201D	03	.966667	.033333	
4251XNY	BA9	4201R	03	0230XNY	B12	4201R	03	.955556	.044444	



Allocation Program

- Triggers are placed on the AP, AR and GL Interface tables to split the transactions based on the data in the Allocation table.
- The trigger is activated when a line with “4251XNY” Fund value, “PS” Cohort Year value, and “FFELGA” or “FFEL Lender” Source value is inserted into the AP, AR or GL interface tables .
- When activated, the trigger calls a program to obtain the allocation percentages from the Allocation Table. The percentages are based on the Fund, Limitation, Object Class and Budget Fiscal Year combination.
- The program inserts the line for the liquidating fund in the interface tables.
- The program adjusts the amount for the financing fund line based on the allocation percentages.



FMS to FMSS Interface

- The FMS to FMSS Interface captures all unprocessed, posted batches from the FMS General Ledger (GL) for transfer to the FMSS GL.
- Validations are performed to ensure that the data matches the format specified by FMSS prior to insertion into a temporary table.
- The lines are inserted into a temporary table.
- Upon insertion into the temporary table, accounting validations are performed to confirm that all lines in the given batches are valid for transfer to FMSS. If there are lines in the batch that do not meet accounting rules, they are flagged with an 'E' (Error) in both the temporary table and base table. The errors are shown on the notification report that is generated through the FMS to FMSS Interface program.
- Lines that adhere to accounting rules are flagged in the temporary table as 'P' (Processed) and transferred to a pipe delimited text file to be sent to FMSS using a secure FTP server. The file contains all batches and associated lines that were successfully processed.
- The file is be stored on the FMS server for one fiscal year.



FMS to FMSS Interface Notification Report

- Report is automatically generated as part of the FMS to FMSS GL Interface program. The report displays summarized information about batches in the temporary table.
- Report is sent to the designated users by e-mail. The e-mail addresses are created under profile options and can be updated.
- The report displays the status of the GL batch, whether or not it was successfully sent to FMSS. In addition, the report provides error codes if the transfer process fails as well as an explanation of each error code.
- If the report completes successfully, the FMS to FMSS temporary interface table is purged. If not, the temporary table is not purged.
- The Report is stored for 15 months.



Trial Balance Relationships Report

- The Trial Balance Relationships Report is a financial report that displays accounting detail related to 4251XNY, 4253XNY, and 0230XNY funds for a given period.
- The purpose of the report is to identify violations of the pre-defined relationship rules, if applicable.
- The first section of the report displays all fund account net activity for the fund and the specified period.
- The second section displays any relationship violations and the associated violation description.



Summary of Approach

Planning: Planning involves defining the scope of the task order and developing a workplan with scheduled completion dates.

Requirements and Design: Requirements gathering involve working with FSA and OCFO representatives to document the functionality required; including the creation of a detailed requirements matrix and meeting memos to document all communication. These documents served as reference for the design effort and the creation of functional and technical design documents.

Development: Development involves following the specifications captured during the design stage to build the required FMS to FMSS Data Transformation and Transfer functionality.

Testing: Unit, system, and integration are performed to ensure that the changes made provided the appropriate functionality as specified in the design stage. Integration testing includes user validations.

Implementation and Deployment: This stage of work involves deploying the functionality and technology required to establish the FMS to FMSS Data Transformation and Transfer components in a manner consistent with the functional and technical requirements. All documents and deliverables are accessible on the shared drive.



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Project Timeline

- Project Kickoff February 5, 2003
- Requirements Phase February 5 - February 21, 2003
- Functional design Phase February 10 - March 14, 2003
- Technical design Phase March 3 - March 21, 2003
- Build and Unit Test Phase February 13 - April 18, 2003
- System Test April 21- May 2, 2003
- Interim Integration Test May 5 – May 29, 2003
- Integration Test June 9 – June 16, 2003
- PRR – Walkthrough May 22, 2003
- Pre PRR June 19, 2003
- PRR June 20, 2003
- Transition to FMS OPS June 24, 2003



Testing Summary

Unit Testing: This phase of testing was conducted by the development team to ensure that the logic programmed for the individual components met the functional requirements specified in the design documents. This testing was completed in the development environment (PDEV). At the end of unit testing, the new components were migrated to the testing environment.

System Testing: This phase of testing was conducted by the testing team to ensure that the individual components function properly when integrated. Test scripts and data sets were developed and used to validate requirements. The testing was completed in a separate testing environment (INTCOM). Accounting Validation was done. Additional testing was done to manually enter invoices with the correct line items.

Interim Integration Testing: FSA and OCFO representatives were involved during this testing effort to ensure that all test scripts for the Integration Testing were completed successfully.

Integration Testing: This phase of testing is a thorough end to end test of the systems integrated. It ensures that the systems function properly when integrated. Test scripts and data sets have been developed and will be used to validate requirements. This testing effort was coordinated with FMSS. FSA representatives were involved during this testing effort.

Security Testing: Security testing is not applicable to this release. See security Impact statement.

Performance Testing: Performance testing is not applicable to this release. The components of this release did not change the volume, the scheduling, the frequency, nor the complexity of the existing interface programs.



Testing Summary – System

- During system testing issues were logged and resolved prior to beginning integration testing .

Summary of Test Incidents logged during system testing:

Test Phase	Status			Total
	Open	Closed	Enhancement	
System	0	15	0	15

- **Conclusion:** Successfully completed system testing.

Closed: Error has been resolved and retested

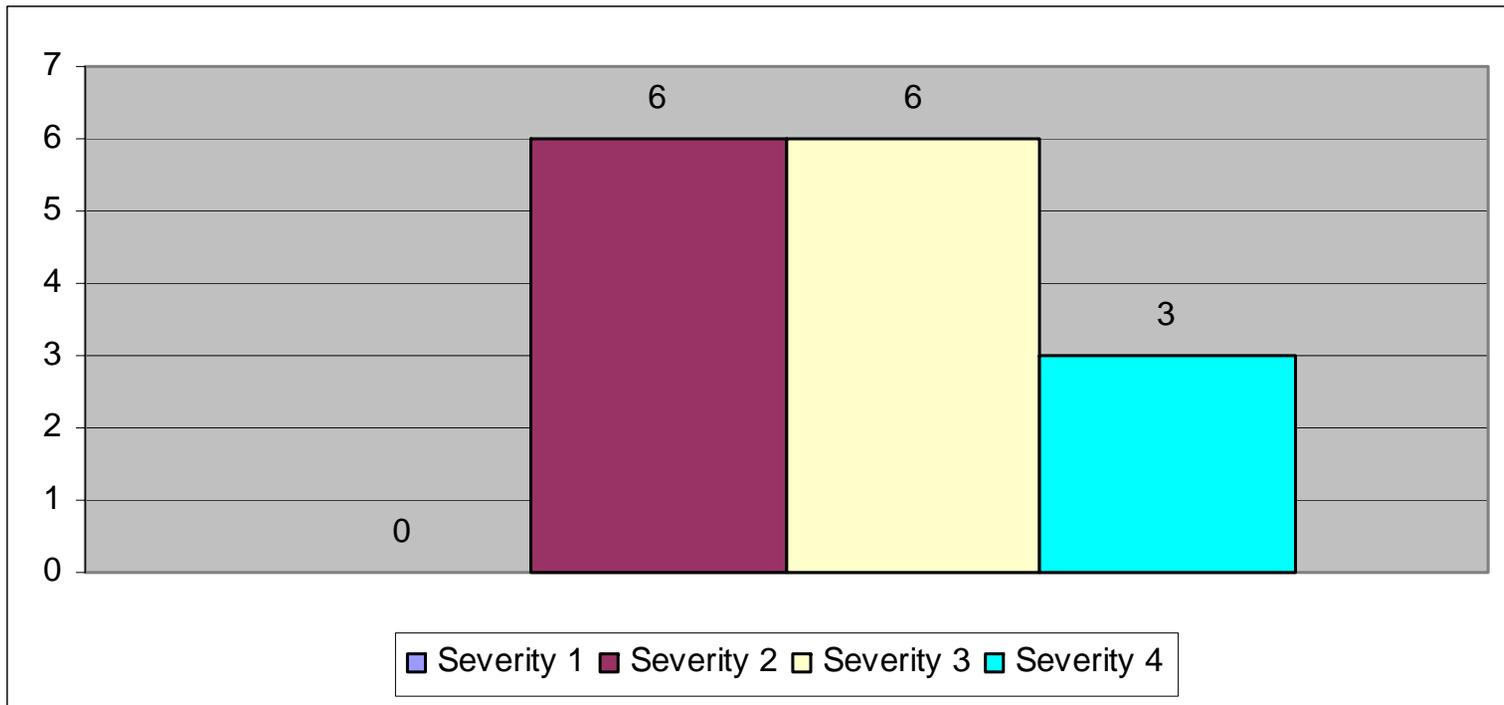
Open: Error has not been resolved

Enhancement: Feature executes correctly, but minor cosmetic changes needed



Testing Summary – System (Continued)

FMS To FMSS System Test Incidents by Severity



- Severity 1: Major Problem. System doesn't respond or crashes
- Severity 2: Major feature halts. Incorrect results after execution
- Severity 3: Expectations of major feature not met. Workaround possible
- Severity 4: Feature executes correctly, but minor cosmetic changes needed



Testing Summary – Interim Integration

- During interim integration testing issues were logged and resolved.

Summary of Test Incidents logged during testing:

	Status			
Test Phase	Open	Closed	Enhancement	Total
Integration	0	5	0	5

- **Conclusion:** Successfully completed Interim Integration testing.

Closed: Error has been resolved and retested

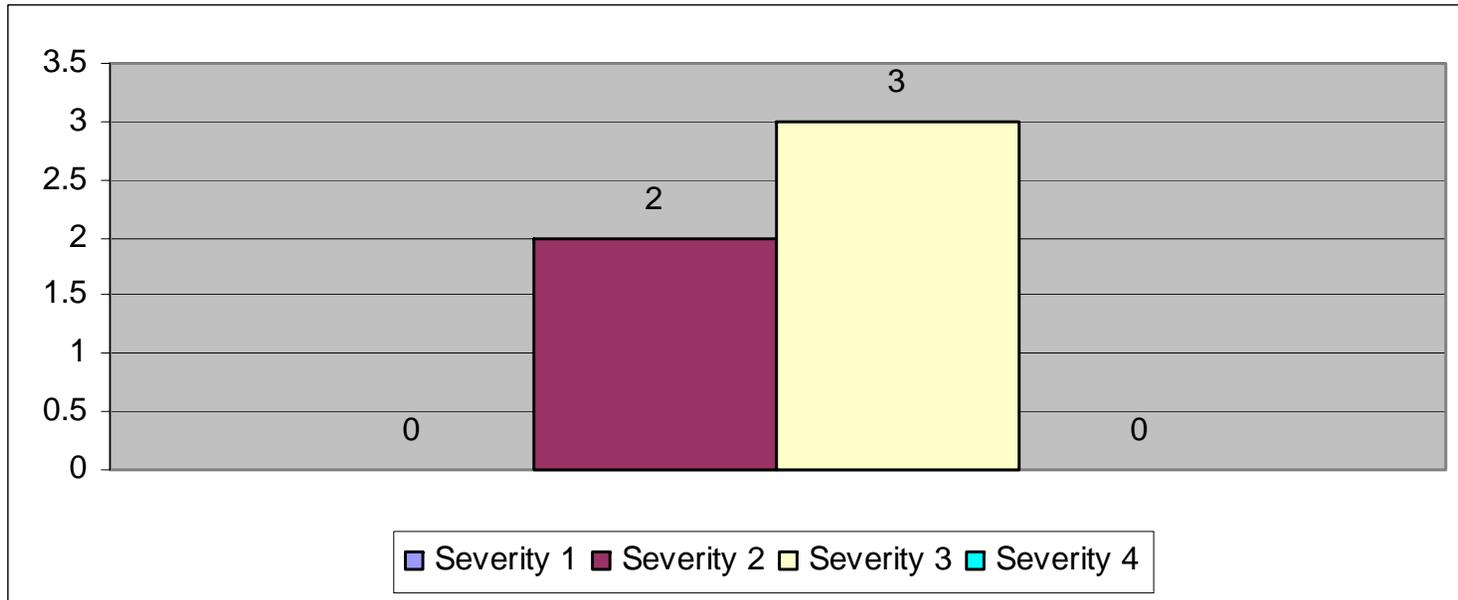
Open: Error has not been resolved

Enhancement: Feature executes correctly, but minor cosmetic changes needed



Testing Summary – Interim Integration (Continued)

FMS to FMSS Interim Integration Test Incidents by Severity



- Severity 1: Major Problem. System doesn't respond or crashes
- Severity 2: Major feature halts. Incorrect results after execution
- Severity 3: Expectations of major feature not met. Workaround possible
- Severity 4: Feature executes correctly, but minor cosmetic changes needed



Testing Summary – Integration

- During integration testing issues were logged and resolved.

Summary of Test Incidents logged during system testing:

	Status			
Test Phase	Open	Closed	Enhancement	Total
Integration	0	2	0	2

- **Conclusion:** Successfully ran FMS Integration Test Scripts.

Closed: Error has been resolved and retested

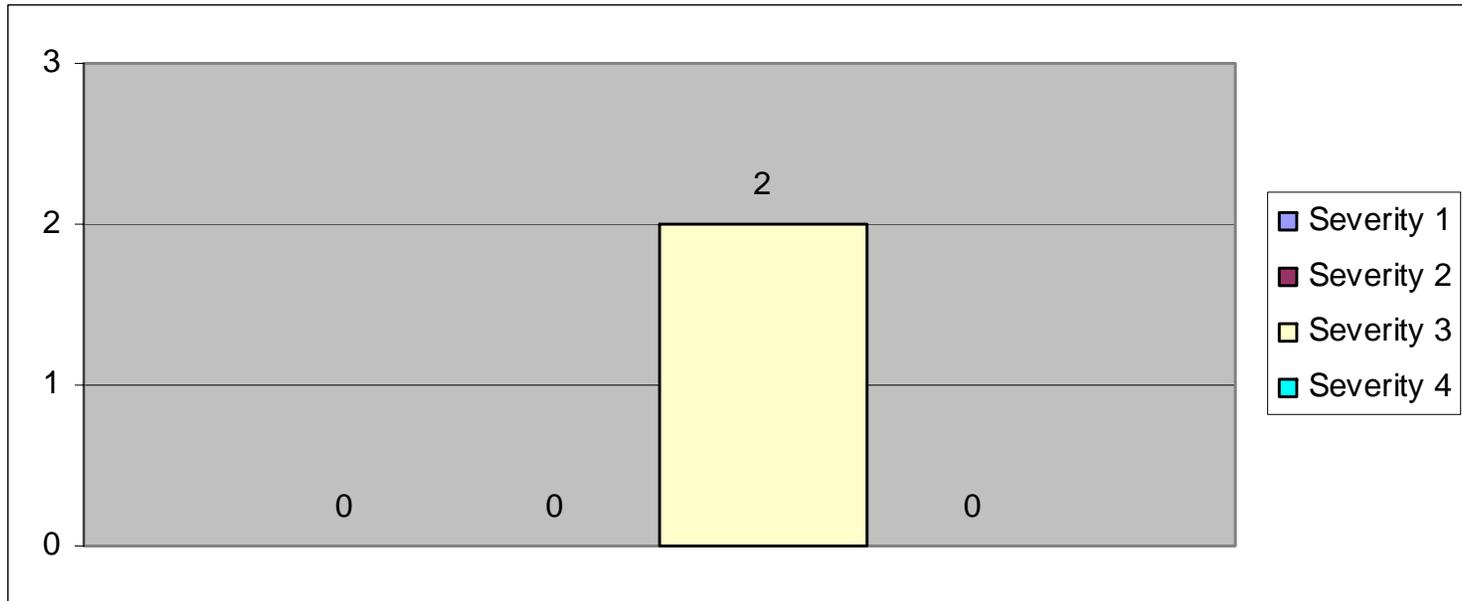
Open: Error has not been resolved

Enhancement: Feature executes correctly, but minor cosmetic changes needed



Testing Summary – Integration (Continued)

FMS to FMSS Integration Test Incidents by Severity



- Severity 1: Major Problem. System doesn't respond or crashes
- Severity 2: Major feature halts. Incorrect results after execution
- Severity 3: Expectations of major feature not met. Workaround possible
- Severity 4: Feature executes correctly, but minor cosmetic changes needed



Testing Summary – Incidents

- **Current Open System Test SIRs:**

There are no open System Test incidents.

- **Current Open Interim Integration Test SIRs:**

There are no open Interim Integration Test incidents.

- **Current Open Integration Test SIRs:**

There are no open Integration Test incidents.

* Details about Incidents that were recorded and resolved can be found in the system and integration test binders.



Security Impact

- The FMS to FMSS interface is added as a new interface program and registered under an existing responsibility - FSA CFO Open/Close Period.
- No changes were made to the existing FSA FMS security structure in terms of technical architecture.
- FMS will access the FMSS FTP server to pull the allocation percentage file and push the G/L data file. The access is to a secure FTP server. There is no impact to FMS security.



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Quality Assurance / IV&V

IV&V documentation and process reviews were performed by the external QA / IV&V team. The QA / IV&V team operates independently of the Integration Partner program and met regularly with the FMS TO 128 Testing team to:

- Perform reviews and traceability analysis of project documentation, application development, requirements, and test cases.
- Closely monitor processes, test progress and SIR closure.
- Provide list of PRR issues for resolution and recommendations.



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Collaboration

Area	Responsible Party
VDC	George Altieri
Applications Maintenance	Jay Hurt
Security Readiness	Shirley Pratt
FMS Operations	Milton Thomas
FSA CFO Accounting Division	Jon Bollinger



Identified Issues and Risks

- The following issues have been identified:
 - The integration testing is a coordination between FMS and FMSS. The testing is considered complete when the GL to GL file has been processed properly in FMSS.

Mitigation Steps: Several test files have been placed on the FMSS server. FMS is waiting for a confirmation that the files have been processed successfully in FMSS.

- The installation guides and system configuration documents should be provided to the FMS Operations as procedural documents regarding TO 128 components.

Mitigation Steps: Both the installation guides and system configuration documents have been submitted to FMS Operations for review. In addition, TO 128 Component Transition documents were submitted. There will be a meeting to further discuss transitioning on Tuesday June 24, 2003.



Identified Issues and Risks (Continued)

- The following issues have been identified:
 - The implementation consideration document should be provided to FSA and FMS Operations regarding TO 128 components.

Mitigation Steps: The implementation consideration document has been prepared and submitted.

- The accounting result from Integration Testing needs to be validated by FSA CFO Accounting and OCFO.

Mitigation Steps: Discoverer reports were prepared and submitted to FSA detailing the results of each batch from Integration Testing. A meeting is scheduled on Monday June 23, 2003 to review these results.