



DETAIL-LEVEL FUNCTIONAL REQUIREMENTS DOCUMENT

*HUD Integrated Financial Management Improvement
Project*

U. S. Department of Housing and Urban Development

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The MIL Corporation

Revision Sheet

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3.0 PROPOSED METHODS AND PROCEDURES

3.0 PROPOSED METHODS AND PROCEDURES

This chapter proposes a Department-wide integrated financial management system that supports HUD's mission that will be a key support element in the successful delivery of all HUD programs. As stated previously, HIFMIP is the name given to an enterprise-wide initiative to implement this new core financial system. Because of the changes that will be required to HUD's current systems, staffing and business processes, this multi-year initiative must be completed in distinct stages. The proposed new system, *Integrated Core Financial System (ICFS)*, will be implemented based on a COTS software package that will enable HUD to resolve OMB and FFMIA compliance issues as well as satisfy the President's Management Agenda (PMA) initiative for Improved Financial Performance. The COTS acquisition process must consider enterprise-wide requirements because the new core financial system has to be configured and designed to support not only OCFO, but FHA, Ginnie Mae and OFHEO accounting requirements.

There are seven COTS packages on the GSA Schedule of JFMIP-certified systems; considering the size, complexity and number of programs, processes and stakeholders in HUD's business operations, OMB has recommended that HUD consider only three of the seven. In addition, two of the three systems to be considered will require an eventual migration to yet another future core financial system version that must be designed and built by the manufacturer. Finally, the Administration, through the various e-Government initiatives, is promoting shared systems and consolidation for similar processes among agencies. Because of these initiatives, HUD has decided to transition the implementation of the ICFS to a *Center of Excellence (COE)*, an e-Government term denoting a sharable resource for computer services and software products.

In the initial stage, the proposed ICFS will allow HUD to replace:

- HUDCAPS: This system runs on aging hardware that is costly to maintain and difficult to integrate with other financial systems. The package is based on the American Management System (AMS) *Federal Financial System (FFS)*, first developed in 1984 which was in turn derived from an earlier AMS commercial accounting system. FFS is no longer JFMIP-certified because its certification has expired. AMS reportedly has no plans for re-certification of FFS.
- PAS: PAS uses aging Unisys technology that is difficult and costly to maintain. PAS uses batch processing for its funds control function, which can result in untimely and inaccurate financial control information.
- Hyperion: This system is a COTS software package used for external reporting to OMB and Treasury. It works in conjunction with customized software called HypFACTS. The proposed new ICFS will accomplish this function directly by the use of a modern database management system and reporting packages. The ICFS will eliminate the need for data extracts to build the report data. Under ICFS, reports can be run at any time with results showing data values as of that point in time.

In the end stage, the proposed new ICFS will also allow HUD to replace:

- LOCCS: This system runs on an aging Unisys mainframe using an operating system that was first developed in the seventies. Both the hardware and the software are costly to maintain. [Note: The LOCCS functionality related to eLOCCS will not be replaced.]
- Financial Data Mart (FDM): the FDM is a custom-developed, internal on-line reporting system that was required because HUDCAPS did not use relational database technology effectively and its eighties-era data structures were too complex for the available reporting tools such as the VS COBOL Report Writer. The proposed ICFS will have an effective relational database management system as its primary means of recording HUD's financial data. A variety of available COTS relational reporting packages can operate directly on the general ledger and other accounting modules providing comprehensive reporting facilities including ad hoc reports. Use of these facilities will eliminate the need for a nightly update of the FDM as well as the current 24-hour time lag on reports.

Additionally, links with other feeder systems (e.g., HPS, SPS, IDIS, TRACS, etc.) will be evaluated for the requirements for integration changes.

Section 3.1 below outlines improvements HUD will obtain from implementation of the proposed new core financial system. Section 3.2 summarizes impacts from the implementation. Section 3.3 details assumptions and constraints.

3.1 Summary of Improvements

The proposed ICFS will provide HUD with a modern integrated financial process and will give HUD a solid foundation for implementation of e-Government initiatives and other emerging technologies. Further, the ICFS will:

- Reduce deficiencies listed in Section 2.3.4 that have been noted in audits and other reports.
- Overcome the lack of integration between HUD's current accounting systems while reducing the number of stand-alone systems and the associated maintenance costs.
- Eliminate the need for separate systems solely for reporting needs such as Hyperion.
- Reduce dependency on "cuff systems". The proposed ICFS will have an on-line interactive reporting capability that will include all transactions processed with minimal time lag.
- Eliminate the need for labor-intensive, time consuming, manual adjustments and other efforts required to produce financial statements and obtain a "clean" audit opinion.
- Facilitate performance accounting.

In the initial phase, the primary functional improvement relative to FHA and Ginnie Mae will be the development of an automated interface to ICFS. The remainder of Section 3.1 details specific improvements from OCFO's implementation of the proposed new ICFS.

3.1.1 Functional Improvements

The ICFS will offer many functional improvements and new capabilities. The functional improvements discussed below have been divided into the following major categories: technology, accounting, management controls, security, and productivity.

1. Technology

- a. The current dependence on mail and fax for some transactions to get into the financial systems will be reduced by the ICFS that provides automated workflow functionality.
- b. Sub-ledger activities do not currently automatically post to the standard general ledger. Transaction data is passed manually or via sequential system batch processes before it posts to the general ledger. This increases the possibility for error and builds in significant time delays before information is available. Manual postings and multiple points for data entry into the system will be minimized with the additions of a centralized place for all data entry and automated, real time posting capabilities for general ledger and subsidiary ledgers.
- c. The ICFS will provide automated notification functionality; the current systems have limited automated notifications.
- d. The ICFS will be web-enabled and with the appropriate level of security; most of the legacy systems are not web-enabled.
- e. The number of multi-chain interfaces originating from HUDCAPS and various feeder systems currently increases the possibility for data degradation with each successive exchange of information. This will be remedied in the ICFS with the enhanced operational feeder systems resulting in more efficient and reduced interfaces.
- f. Documentation in accordance with HUD's System Development Methodology will be provided for all systems and interfaces.
- g. Current financial systems do not provide sufficient support to federal housing programs; the ICFS will provide timely financial information to support decision-making.
- h. The ICFS will run on up-to-date hardware and software that is supported by the manufacturer and has a large, well-experienced labor force available to HUD and support contractors.
- i. The use of relational database technology will allow HUD to use highly effective reporting facilities for reporting on any phase of the financial cycle using database entity or database views combining several database entities.

2. Accounting

- a. The current system, HUDCAPS, cannot be modified to account for multi-year monies at year-end; the ICFS will do this. (Block grants have money appropriated for multiple years. This requires a manual adjustment in HUDCAPS to transfer the money from one year to the next year.)
- b. The ICFS will be the central repository for all obligations, thereby eliminating the need to maintain them in multiple systems and reducing the need for "cuff systems" using Excel spread sheets and other non-integrated media.
- c. Current systems use different coding structures. For the ICFS, a chart of accounts and accounting structure will be developed and standardized to support the planned and approved consolidation and integration of OCFO, FHA-SL, Ginnie Mae, and OFHEO financial systems.
- d. CGI-AMS' Federal Financial System (FFS), on which HUDCAPS is based, is no longer OFFM (formerly JFMIP)-compliant. The ICFS will be OFFM-compliant.

3. Management Controls

- a. Currently, some grantees can draw funds before reporting performance data. This will be disallowed, except for certain designated grantees, through the ICFS that will provide automated workflow functionality based on business rules for approvals.

- b. Currently, timely reviews of unexpended obligations are not being performed. To remedy this, the ICFS will provide automated alerts based on business rules for funds to be de-obligated.
 - c. Current financial systems do not provide sufficient support to federal housing programs; the ICFS will provide timely financial information to support decision-making.
4. Security
- a. Access controls to secure sensitive programs and files on the Unisys mainframe will be improved. The HITS III award seeks to replace all Unisys based mainframe systems through the migration of applications to client servers and web-based technologies.
 - b. The ICFS will provide necessary refinement of the system privileges granted to system administrators by newly defining roles and responsibilities for users.
 - c. Newly defined roles and responsibilities for users will give field offices improved access controls.
5. Productivity
- a. The system will provide better reporting tools to streamline automated reconciliation.
 - b. The ICFS will provide automated notification functionality to alert users to required action items; the current systems have few automated notifications.
 - c. The ICFS will automate, where possible, the steps to close the fiscal year financial systems and produce the initial set of financial reports for audit in order to streamline the current bulky process that requires multiple steps.
 - d. The current support for analysis and decision is limited and requires excessive manual effort. This will be remedied with the new ICFS that will provide timely financial information to support decision-making in an effort to turn employees from transaction processors into financial analysts.
 - e. The ability to shift resources from non-value added tasks to analysis and advice in support of HUD's mission will be gained through the implementation of the ICFS.

3.1.2 Improvements to Existing Capabilities

The ICFS will offer many improvements to existing capabilities. These improvements, which are discussed below, have been divided into the following major core function categories: funds management, purchasing (commitments and obligations), accounts payable (expenditures), accounts receivable, cost management, grants management, general ledger management, and financial reporting.

- 1. Funds Management
 - a. The current system HUDCAPS cannot be modified to account for multi-year monies at year-end; the new ICFS will do this.
 - b. Currently, timely reviews of unexpended obligations are not being performed. To remedy this, the new ICFS will provide automated alerts based on business rules for funds to be de-obligated.
 - c. Because there are multiple systems currently processing commitment and obligation transactions, it can be challenging to determine commitment and obligation balances. ICFS will alleviate this issue with the centralized posting of all financial transactions to support real-time status of funds.
- 2. Purchasing

- a. The ICFS will be the central repository for all obligations, thereby eliminating the need to maintain them in multiple systems and reducing the need for “cuff systems” using Excel spread sheets and other non-integrated media.
 - b. The Central Contractor Registry (CCR) will serve as a single source of vendor data for HUD.
 - c. The ICFS will be able to obtain and use the DUNS number as a unique business identifier. The new system must be able to handle multiple numbers or identifiers for some grantees (like PHAs).
 - d. Current financial systems do not readily provide complete and consistent obligation and expenditure information on contracting activities. The new ICFS will include an interface to the procurement system
3. Accounts Payable (Expenditures)
 - a. The Central Contractor Registry (CCR) will serve as a single source of vendor data for HUD.
 4. Accounts Receivable
 - a. The Central Contractor Registry (CCR) will serve as a single source of vendor data for HUD.
 - b. The ICFS will allow for the elimination of “cuff systems” using Excel spreadsheets and other non-integrated media.
 5. Cost Management
 - a. The ICFS will be the central repository for all obligations, thereby eliminating the need to maintain them in multiple systems and reducing the need for “cuff systems” using Excel spread sheets and other non-integrated media.
 - b. The ICFS will integrate with the OCIO tool for maintaining the portfolio with HIFMIP (PCAS cost accounting replacement) to improve reconciliation between portfolio and funding.
 - c. The ICFS will facilitate the Working Capital Fund budget formulation and execution tracking that is not accomplished by the Government Financial Information Tracking System (GFITS).
 - d. The ICFS will facilitate the automation of software capitalization (FASAB No. 10).
 - e. The ICFS will link the PCAS projects (cost accounting) with the Budget Object Class (BOC).
 6. Grants Management
 - a. Sub-ledger activities do not currently automatically post to the standard general ledger. Transaction data is passed manually or via sequential system batch processes before it posts to the general ledger. This increases the possibility for error and builds in significant time delays before information is available. Manual postings and multiple points for data entry into the system will be minimized with the additions of a centralized place for all data entry and automated, real time posting capabilities for general ledger and subsidiary ledgers.
 - b. The current cumbersome and difficult procedures for de-obligation of funds (including grants) will be made more efficient through automated workflow functionality.
 7. General Ledger Management
 - a. The new ICFS will produce consolidated financial statement reports directly from the core financial system, which should lead to the elimination of Hyperion.
 - b. The new ICFS will automate, where possible, the steps to close the fiscal year financial systems and produce the initial set of financial reports for audit in order to streamline the current bulky process that requires multiple steps.
 8. Financial Reporting
 - a. The new ICFS will capture comprehensive financial data that can be used to support ad-hoc queries and reports. It would no longer be necessary to maintain the separate system Financial Data Mart as a work around for HUDCAPS.

- b. The new ICFS will meet external reporting requirements, which will be produced directly from the core financial system, so that it is no longer necessary to maintain the separate system Hyperion as a work around for HUDCAPS, which cannot accomplish this task. The current process is not efficient for either the OCFO or the OIG. FHA and Ginnie Mae will interface with ICFS for reporting requirements.

3.1.3 Timeliness

The ICFS implementation will improve the timeliness of information availability. Headquarters and field program managers will benefit from integrated financial and program information. Response times will be improved and timing discrepancies will be minimized. Additional timeliness improvements are noted below.

1. Gain real-time information access.
2. Reduce cycle times and increase efficiency.
3. Improve data integrity.
4. Improve business process efficiency.
5. Enhanced operational feeder systems will improve operational efficiency.

3.2 Summary of Impacts

This section summarizes the anticipated impacts of the proposed system on the existing organizational and operational user environments. It will also describe the impacts to the user during the development of the system.

3.2.1 User Organizational Impacts

During the implementation of the ICFS, HUD financial staff will be impacted by the concurrent implementation of the new system with the continued support of the existing systems. Furthermore, staff will need to be trained in the use of the new system. The implementation of the new system should include an in-depth organizational impact analysis along with a training/re-training plan to ensure all users are appropriately trained in their role with the new system.

Following the implementation of the ICFS, current staff may be reassigned or their roles may be modified in the following areas:

1. *Support staff for eliminated/integrated financial systems:*
Since the implementation of the ICFS will result in the elimination of some non-core financial systems as well as the integration of other financial systems requirements directly into the ICFS, support staff will have additional opportunities to support the new system and HUD. This will include technical staff for the systems as well as the functional staff.

2. *Reconciliation and adjustments staff:*

With the elimination of outdated technology, batch interfaces, and data integrity issues, reconciliation and adjustments staff can be trained and assigned to more analytical work to ensure the system supports HUD's business processes. Some staff will be tasked to review ongoing automated reconciliation results to ensure the continued integrity of the data.

3. *Audit support staff:*

Similar to the Reconciliation and Adjustments Staff, the audit support staff can be trained and assigned to more analytical work to ensure the system supports HUD's business processes. As the result of the ICFS implementation, future audits (after the first) should be smooth and require less support from the financial staff—hence allowing for new tasking for the financial staff.

While these areas will require less staff, we do not anticipate an overall decrease in HUD personnel due to the following reasons:

- Staff will be reassigned to focus on analyzing financial data to support HUD's mission in more efficient and effective ways; and
- Much of the staff described above is contractor staff that, in fact, may be reduced to show an overall cost savings to HUD.

3.2.2 User Operational Impacts

Operationally, the implementation of the ICFS will result in a streamlined interface between the user and the computer operating centers. The new system will replace outdated systems running at multiple data centers (Unisys, Hitachi, LAN-based, etc). The new system will be located at one data center with a Disaster Recovery backup site. A testing/training environment will also be used.

The ICFS implementation team will develop a Training Plan and will schedule and conduct training for all personnel affected by the implementation. Technical, accounting, and program staff will all be trained on the new system and in their new roles and responsibilities.

The ICFS implementation team will also develop a Disaster Recovery Plan. This plan will outline the data retention requirements; modes of operation based on emergency, disaster, or accident; and proposed methods for providing data if the primary system is not available.

3.2.3 User Developmental Impacts

Prior to the implementation of the system, the users of the ICFS will be required to participate in a number of preparation activities as well as attend training. Current systems will continue to operate until the new ICFS has been thoroughly tested, data conversion has been completed, staff has been trained, and contingency plans have been prepared.

Specifically, users will be impacted by the following developmental tasks that will need to occur prior to the implementation of the ICFS:

1. Perform data cleanup – All data to be entered into the new ICFS must be verified prior to being converted.
2. Select core ICFS – A rigorous review of available solutions will be performed to select the HUD ICFS.
3. Perform gap analysis – A detailed review of HUD's requirements and procedures against the selected ICFS will be performed to identify any areas that will need enhancement or adjustment.

4. Perform Business Process Re-engineering – All financial processes and procedures will be reviewed and updated as necessary. Financial procedures will be standardized and HUD-specific procedures will be enforced. Workforce alignment will also be reviewed.
5. Plan roadmap for system deployment and retirement of replaced systems – The Roadmap will provide a migration plan that identifies activities for three levels: organization, project, and application (including legacy systems, COTS, and bolt-ons, if any.)
6. Develop a communication plan – HUD needs to develop a communication plan to communicate with users about the training and implementation tasks that are occurring.
7. Develop Change Management Plan – HUD will need to develop a comprehensive Change Management Plan to ensure that users, customers, and organizations are effectively transitioned to the new ICFS.
8. Develop enhancements and interfaces for the ICFS – Based on the results of the gap analysis, enhancements may be developed for HUD’s implementation of the ICFS. Interfaces will also need to be developed for e-Travel, HUD Procurement, and other remaining systems.
9. Configure the ICFS – The ICFS must be configured with the system options appropriate for HUD prior to testing and implementation.
10. Conduct System Acceptance Testing – System Acceptance Testing will be conducted by a test team that will consist of system stakeholders as designated by the HIFMIP team. The test team will prepare a VV&T plan and will document any errors. Corrections will be retested by the test team.
11. Develop a conversion plan – HUD will need to develop a plan for converting legacy financial data to the new ICFS.
12. Standardize financial reports HUD-wide – HUD should take inventory of all financial reports and determine if there are any reports that are no longer needed. Similar reports should be compared to determine if the needs can be met by a consolidated report. Additional report requirements will be documented and reports will be developed.
13. Develop procedures documentation – Documentation will be developed to assist users in their use of the new ICFS. This documentation will include Users Manuals, Quick Reference Guides, Operational Documentation, and Procedures Documents.
14. Implement Data Conversion Plan – Data will be converted from the legacy systems to the ICFS. A detailed, rigorous review of the converted data will be performed to ensure the data was converted appropriately.

Cutover to ICFS – Once testing, conversion, and training is complete, the cutover to the new ICFS will begin. This cutover may include a pilot implementation followed by full implementation.

3.3 Assumptions and Constraints

The successful implementation of the ICFS will be a challenge for HUD. Despite necessary planning and resources, unexpected problems will inevitably arise. With attention paid to the following assumptions and constraints however, the Department can achieve an ICFS that meets its needs. Therefore, the following assumptions are made about the implementation of the ICFS:

- **Reengineering of Business Processes Will Occur.** In a Department-wide effort, HUD must be prepared to reengineer its current business processes. This reengineering begins with a Department-wide analysis of current business processes that will allow the Department to identify differences between similar processes, and make and enforce the changes needed to ensure efficient and standardized procedures HUD-wide. It is vital that these new processes, and any additional changes to them that might occur, are documented thoroughly. These documented processes will become a critical tool in identifying and selecting the ICFS that best fits the Department’s business needs. This activity will also help the Department set up its new business rules when implementing the ICFS.

- **Sufficient Resources Will Be Available to Complete the ICFS Implementation.** The success of the implementation depends on identifying and committing sufficient monetary and personnel resources. The people component includes both internal HUD employees and external contractor staff. Internally, both OCFO and program area staff need to be identified and assigned to the project. The project team must be staffed with HUD personnel who are committed to the project and possess the required institutional knowledge. Senior management must remain mindful that internal personnel may have other demands on their time in connection with other projects and responsibilities. This will become a point of stress despite the admitted long-term benefit to the Department. In some cases, staff members will need to be relieved of their day-to-day responsibilities for a period of time.

Additional external resources may be required to ensure that specific needed skill sets are brought to the project. There should be a proper balance of functional and technical resources. Both play a critical role in ensuring that the diverse interests and aspects of the project are properly represented, and that the end product is suited to the Department's needs.

The monetary resources must be committed by developing a realistic budget that includes all costs associated with the project. Close monitoring of the budget, the project timeline, and the completion of project tasks will help keep the project within budget.

- **Adequate Training Will Be Provided.** Training is one of the most critical and multifaceted aspects of system implementation. Training includes, but goes well beyond, teaching a user how to access and enter data into the new system. It also ensures that the user understands how the new system fits into the larger picture of the Department, as well as how it impacts and changes his or her individual responsibilities and tasks. Training is not a one-time occurrence, there must be a plan for refresher classes. Basic training should be offered to new staff, and advanced training provided to more experienced system users.
- **FHA, Ginnie Mae and OFHEO will provide reporting information during the initial stage.** To ensure continuity of HUD's current financial system modernization projects, FHA, Ginnie Mae and OFHEO will temporarily interface with the new ICFS for preparing the consolidated financial reports. As HUD transitions to a single core financial system and all four organizations have completed their financial system modernization projects, HUD will then determine the integration options that are available, and are cost-effective, efficient and support HUD's business process.
- **Implementing a COTS solution will meet a majority of federal financial reporting requirements, but HUD-specific requirements may require solutions outside of the COTS product offering.** Many of the HUD financial systems capture and process some level of programmatic activity, such as those for direct loans and guaranteed loans. This functionality must be handled by the core financial system—if not entirely, then perhaps in conjunction with other bolt-on systems.
- **New legislation has required HUD to go to a Center of Excellence.** The use of a Center of Excellence (COE) can provide information technology (IT) hosting and operational support, i.e., processing services, for core financial management activities. The solution is a market-driven approach based on a shared services model that will maximize economies of scale, scope, and skill while benefiting from the use of both government and public/private jointly managed financial management centers that service multiple agencies' financial management IT systems. The COE, depending on the level of service provided to each federal agency, will provide flexibility and economies of scale, be cost efficient and effective, and will support all HUD business processes.