

**EXECUTIVE SUMMARY and BOARD REPORT**  
**Custom File Maintenance (CFM) Audit and Time and Cost Study for January 2001 through October 2004**

**I. AUDIT AND TIME AND COST STUDY INTRODUCTION** Daily, thousands of transactions are processed by Employee Trust Funds (ETF) database systems. Also, hundreds of documents are correctly imaged; then, moved electronically to workflow assignments or storage. When data additions, changes, or errors arise in ETF database systems either existing production processes or unique, one-time corrections, called *custom file maintenance* (CFM), are executed. Risks associated with bypassing a pre-existing application and using powerful utility software to directly change data are: undetected data access, incomplete data integrity, unauthorized use of utility software, improper retention of corrections, poor electronic transaction trails, and loss of institutional knowledge.

Additionally, management requested a CFM Time and Cost Study because: volume of CFMs is steadily increasing; technical staff is involved daily; and, ETF was interested in identifying costs for individual business processes.

**II. AUDIT AND TIME AND COST OBJECTIVES AND SCOPE** To identify CFM risks, controls, possible improvements, and costs, we have: 1) reviewed a 42-month sample of 2001-2004 CFMs; 2) documented CFM steps; 3) surveyed ETF staff, other State agencies, and other retirement systems; 4) obtained statistics and cost data; 5) examined CFM general controls and application controls for Imaging, Workflow, WEBS (Wisconsin Employee Benefit System), Annuity, and other database systems; and, 6) compiled time and cost figures.

**III. AUDIT OPINION, OBSERVATIONS, AND PLANS OF ACTION** Managing electronic data is essential to ETF. Therefore, business and technology staff closely examine each CFM request to see if existing processors may be used. CFM processing is careful, thorough, and has many controls. Consequently, any changes to the existing CFM process will require detailed, technical analysis similar to the data planning completed for the new Benefit Payment System (BPS). The following plans of action, if implemented, will begin to address the risks Internal Audit has identified for: documentation, staffing, security, data trails, data integrity, and other internal control needs such as segregation of duties and additional automation.

**OBSERVATION 1:** Updating CFM documentation and procedures to reflect current processing, technology, and database systems will guard against loss of institutional knowledge, improve process and data consistency, and reduce the likelihood of errors.

**PLANS OF ACTION:** Procedures, technical documents, and DB2 data/table relationships will be updated. Staff authorized to request CFMs will be identified and trained, their role reviewed and documented. Referential integrity<sup>1</sup> will be included when automating components of daily and system-to-system reconciliation.

**OBSERVATION 2:** Currently DOA,<sup>ii</sup> Division of Enterprise Technology, does not have the necessary resources to do more comprehensive monitoring and review of mainframe databases and access security structures. This limitation impacts our ability to perform some tests and validate some electronic transaction controls.

**PLANS OF ACTION:** Authorization and access security procedures will be reviewed and documented to ensure prevention of unauthorized data and program changes. Also, an audit of staff access capabilities is planned.

**OBSERVATION 3:** CFM activity is often difficult to trace. Some improvements are: assign unique CFM identifiers and post all CFM activity to system transaction history files. Add relevant CFM records to Records Disposition Authorization (RDA) 00091 and retain 10 years. Implement imaging system sub-folder, or alternative method for CFM and "other" electronic maintenance, to be stored and available to all staff.

**PLANS OF ACTION:** Update RDA 00091. Determine what CFM documents will be imaged. Find alternatives for creating an additional sub-folder for CFM and other electronic records. Explore setting up a common CFM technical library. Evaluate expanding WEBS adjustment/batch programs to minimize need for CFMs.

**OBSERVATION 4:** Applications may gain productivity, security, and segregation of duty improvements from CFM processing if: business user roles are clarified and documented; CFM execution authority is only given to Computer Science Bureau; production support records are more complete when CFM is required; and, employee accounts are reviewed after CFMs involving production support, mass account changes, annual dividend, interest crediting, etc., are performed.

**PLANS OF ACTION:** CFM segregation of duties model will be reviewed, documented, and staff will be trained. CFM submittal will include DB2 data/field relationships and referential integrity evaluation and documentation. Procedures will be developed for handling personal information.

**OBSERVATION 5:** Automating parts of the CFM process would improve controls, add efficiencies, and update technical information in data dictionary or model.

**PLANS OF ACTION:** Analyze, implement, and document other justified automation and Imaging/Workflow "delete function". Based on business needs, determine the extent to which referential integrity may be effectively automated, and if the volume of WEBS CFMs may be decreased.

**EXECUTIVE SUMMARY and BOARD REPORT**  
**Custom File Maintenance (CFM) Audit and Time and Cost Study for January 2001 through October 2004**

**IV. TIME AND COST OPINION AND RESULTS** For cost accounting purposes, it is difficult to identify a common method to summarize CFM staff time, desktop software use, and mainframe processing. But, we were able to determine that: all surveyed database systems use some form of CFM processing; the volume of CFMs at ETF is consistent with the size of our database systems; and, CFM processing at ETF is consistent with outside entities. Furthermore, it is likely that future technology, law, administrative, or system changes will continue to trigger a need for CFM. Accordingly, this study can be used as baseline data to:

- Design more efficient and adaptable BPS production and CFM correction processes. Then determine what BPS CFM improvements may be applied to other legacy systems.
- Compare and monitor year-to-year CFM costs and trends.
- Generate more precise information for budgeting and other studies. For example, ETF management may wish to identify a common method to summarize staff time, establish and acquire pertinent mainframe costs, prepare cyclical models, and obtain specific and timely data. Typically these attributes are found in cost accounting or activity-based costing methods.

The quantifiable results of CFM cost accounting analyses include:

- CFM savings may be realized if business staff, rather than technical staff, were to complete more imaging and workflow CFM steps.
- CFM cost is *estimated* to be 3% of the Division of Information Technology's annual budget.
- Based on a 42-month period<sup>iii</sup>, costs change by year, effected by volume of corrections, mainframe-billing costs, and by business and technology staffs' thorough analysis of the current impact and future handling of each "unique" CFM. **Several cost scenarios are available.** For example, in November 2004, within  $\pm 2\%$ , we *estimated* that the annual number of 2004 CFMs would be nearly 800 (30% imaging and workflow and 70% WEBS and other systems). Also, the annual *estimated* cost would be \$213,370 with 1.7 FTE for CFM staffing, processing, and computing resources.
- Re-indexing is a lower cost alternative to some types of imaging and workflow CFMs. ETF fully utilizes re-indexing. By November 2004, within  $\pm 2\%$ , the *estimated* annual cost would be \$136,548 and 0.73 FTE. The *estimated* 2004 cost reflects a re-indexing volume of 7,586 and improved mainframe technology.

**V. SECRETARY'S OFFICE COMMENTS** Completing the plans of action for this audit will give greater assurance that CFM utility processing is functioning as intended, and that data remains complete, accurate, and valid during its update, and storage. Additionally, the planned security access audit will give management more information about "privileged access" exposures.

The sampling techniques and use of data do provide examples for future time and cost studies. Also, technology and business staff may use the time and cost study as a baseline for future CFM or adjustment processing analysis.

---

<sup>i</sup> **Referential integrity** For example, in a database of family members, if A is entered as a spouse of B, then B should be entered as a spouse of A. Similarly, if one end of the relationship is removed, the other should also be removed.

<sup>ii</sup> **DOA** - Department of Administration.

<sup>iii</sup> Available data was January, June-December 2001 (8 months), January-December 2002 (12 months), January-December 2003 (12 months), and January-October 2004 (10 months). This time period included ACT 11 and other CFMs. Including 2004 CFMs smoothed the affect of high ACT 11 volume. ACT 11 gave pension and benefit improvements for members plus a contribution holiday for employers.