



**Core Competencies
in Financial Management for
Information Technology Personnel
Implementing Financial Systems
in the Federal Government**

**A Joint Project of the
Chief Financial Officers Council
and the
Joint Financial Management Improvement Program**

List of Abbreviations

CFO	Chief Financial Officer
CFO Act	Chief Financial Officers Act of 1990
CIO	Chief Information Officer
COTR	Contracting Officer's Technical Representative
FASAB	Federal Accounting Standards Advisory Board
FFMIA	Federal Financial Management Improvement Act of 1996
FFMSR	Federal Financial Management System Requirements
FMS	Financial Management Service, Department of the Treasury
GAO	General Accounting Office
GPRA	Government Performance and Results Act of 1993
GSA	General Services Administration
IT	Information Technology
ITMRA	Information Technology Management Reform Act
JFMIP	Joint Financial Management Improvement Program
OMB	Office of Management and Budget
SFFAS	Statement of Federal Financial Accounting Standards
USDA	U.S. Department of Agriculture

Foreword

Core Competencies in Financial Management for Information Technology Personnel Implementing Financial Systems in the Federal Government is the third document in a series of Core Competencies publications developed jointly by the Chief Financial Officers Council and the Joint Financial Management Improvement Program. It is intended for the use of information technology (IT) personnel working on financial systems and defines the key developmental goals and training activities for IT personnel to achieve a working level of competence in financial management.

The CFO Council and the Office of Management and Budget identified improvement of Federal financial management systems as the number one priority in their jointly published *Federal Financial Management Status Report and Five Year Plan, July 1995*. Indeed, the degree of success that any Federal agency or department has in achieving its financial program goals and objectives hinges on the utility and effectiveness of its financial management systems. Ready access to financial data and accurate, timely reports are essential for managers to determine the costs of their program services and products in an environment increasingly characterized by business-type analysis and evaluation of program performance.

With the full implementation of the Government Performance and Results Act (GPRA) of 1993, agencies will be required to report to Congress on their progress in achieving the performance goals contained in their strategic plans. Agencies will measure progress in achieving program performance indicators that are measurable both qualitatively and quantitatively. To do this, each agency will need to develop financial management information systems that capture both financial and program specific information that can be reported in an understandable, clear and concise way. These reports will be Congress's primary tool in reviewing budget requests and determining further funding. Federal financial management systems also will need to conform to the new accounting and system standards prescribed in the Chief Financial Officers Act of 1990, the Information Technology Management Reform Act of 1996, and the Federal Financial Management Improvement Act of 1996 (FFMIA).

Information technology (IT) personnel, working in cooperation with financial system analysts, play crucial roles in developing and maintaining effective financial management systems. It is important that each of these professions acquire a working knowledge of the other's discipline to optimize cooperation and understanding in the development, maintenance, operation, and acquisition of the kinds of financial management systems required by the new legislation. This Core Competencies document has been prepared to support such cooperation and understanding.

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Introduction

Background

A governmentwide training symposium held in 1994 provided the impetus for establishing governmentwide core competencies for all levels of financial management personnel. The first effort resulted in the *Framework for Core Competencies for Financial Management Personnel in the Federal Government* published in 1995. The CFO Council then suggested that financial management competencies be defined for program managers in light of the new requirements placed on them by the GPRA. The resultant *Core Competencies in Financial Management for Program Managers in the Federal Government* was published in April 1997. The Council had also recommended that financial core competencies be identified for financial system analysts. A CFO Council sub-committee was formed in December 1996 to develop these competencies. After a few discussions, the sub-committee concluded that the roles of the financial system analyst and the computer system analyst (computer specialist) supporting financial systems were blending together. Indeed, neither discipline could continue to operate as it had in the past--one dictating functional requirements, the other deciding on technological solutions, sometimes almost independently of each other. It became clear that in order to produce financial system solutions that work, the financial system analyst needs an in-depth knowledge of financial management and a working knowledge of IT, while the IT professional must have an in-depth knowledge of IT and a working knowledge of financial management. These two disciplines working together is a critical factor for the effective design, development, implementation and operation of financial management systems.

Purpose of this Document

The objective of this document is to set forth recommended core competencies in financial management for IT personnel who are responsible for building and maintaining financial systems to foster collaborative work among IT and financial management professionals.

The target audiences are IT personnel at all levels of experience. The document identifies general areas of competency and, within these, specific learning objectives or developmental goals. Financial management core competencies for entry-level and mid-level personnel are presented together, and those specific learning objectives or developmental goals that apply only to the mid-level are so identified. Financial core competencies for senior level personnel are presented separately; it is assumed that the senior level personnel have mastered the entry- and mid-level competencies.

Further, it is understood that this document identifies only financial management core competencies for the IT professional and not the IT knowledge and skills which constitute the IT professional's primary professional knowledge and skills. For example,

project planning competencies are not addressed in this document.

Conclusions and Recommendations

Following the initial recommendation by the Human Resources Committee for development of financial core competencies for the general financial management (500-599 classification) series, it was concluded that the financial system analyst (classification series 501) and the IT specialist (classification series 334) need to work together as a team to analyze, design, develop, implement, and support financial systems. Therefore, *Core Competencies in Financial Management for Information Technology Personnel Implementing Financial Systems in the Federal Government* was developed. This document will be issued along with *Core Competencies in Financial Management for Financial System Analysts in the Federal Government* to provide both disciplines a reference tool for developing the knowledge, skills and abilities necessary for support of financial systems.

While much knowledge can be obtained through on-the-job experience, classroom instruction is necessary to acquire the principles and policies of financial management processes and techniques. Successful IT personnel will most likely achieve competence in financial management through a combination of formal training and practical applications.

Financial Core Competencies for Entry- and Mid-Level IT Personnel

The following are target levels of competencies for entry- and mid-level IT personnel. They are described as knowledge, skills, and abilities; however, possession of a level of understanding, knowledge, and skill alone does not accomplish the work. Competencies are evidenced by their application and can be developed only through a mix of on-the-job experience in structured work assignments and third-party provided training.

The competencies are clustered into the following groups: Accounting; Financial Systems; Legal, Procedural, and Regulatory Framework; Agency/Organization Specific; and General Business, Communication, and Leadership. The competencies apply to both entry- and mid-level unless specifically stated otherwise.

Accounting Competencies

Basic accounting concepts and principles

- General knowledge of double-entry accounting concepts of debits and credits, including single transaction entry resulting in multiple postings.
- General knowledge of the different methods of accounting including accrual, obligation, and cost.

Federal accounting concepts and principles

- General knowledge of the requirements of the Standard General Ledger (SGL). Understanding of the structure of general ledger accounts required of all agencies.
- General understanding of the structural relationship between the budgetary and proprietary SGL accounts.
- General understanding of how financial transactions affect SGL accounts.
- General knowledge of Federal Accounting Standards Advisory Board (FASAB) financial accounting concepts and standards. (Mid-level)

Accounting internal controls and automated data processing controls

- General knowledge of the techniques used to assure that financial transactions and files are fully processed (e.g., hash dollar and item counts). Mid-level IT personnel should have a thorough understanding of such techniques.
- General knowledge of financial systems control reports and files that are used to check the data integrity within the process. Mid-level IT personnel should have a thorough understanding of these reports and files.
- General understanding of the types of functional and technical security controls used to limit access to financial computer files, tables, and data. This includes controls for purposes of separating functions so that an individual does not have sole control and oversight of the security of financial data. (Mid-level)

Financial Systems Competencies

Financial systems' functionalities

- Working knowledge of the overall functionality of the financial system(s) and the individual specific supports and interface(s) with other systems.
- At the mid-level, thorough knowledge of the organization's various financial systems' functionalities. Comprehension of how a change in one system affects other systems and how all the interfaces between systems work.

Financial requirements and IT solutions

- Ability to identify and analyze software tools that facilitate the processing or retrieval of financial data. (Mid-level)
- Ability to identify and communicate technological solution alternatives, including costs and time frames, to financial managers and program managers for mutual decision-making. (Mid-level)

Legal, Procedural, and Regulatory Competencies

- Knowledge of legislative and regulatory requirements applicable to the organization's financial systems and practices, when appropriate.

- General understanding of relevant laws and regulations such as the requirements of OMB Circular A-127, GPRA, the CFO Act and their effects within the Agency. (Mid-level)
- General understanding of JFMIP guidance contained in *JFMIP Framework for Federal Financial Systems* and *JFMIP Federal Financial System Requirements*, when appropriate.
- General understanding of ITMRA of 1996 which provides criteria for developing and maintaining financial systems and related policies and procedures. (Mid-level)
- General understanding of how the agency formulates its budget and the Congressional and OMB appropriation process. (Mid-level)
- Understanding of sources of funding and the appropriation process including associated terminology such as authorizations, apportionments, allotments, commitments, obligations, and expenditures. (Mid-level)

Financial Systems Oversight and Management Controls Competencies

- Ability to work with financial auditors and financial systems analysts to audit automated financial systems, respond to findings, and apply improvements to these systems. (Mid-level)

Agency/Organization Specific Competencies

Mission and Strategic Plan

- Knowledge of the agency/organization's structure, mission, function, and major components and the requirements of the agency's strategic plan.

Organization's business practices

- Working knowledge of the organization's business practices as they relate to the financial system(s) the individual supports.
- Thorough knowledge of business practices related to the financial system's operations required to effectively work with financial and program staffs in importing and/or reengineering financial management systems. (Mid-level)

General Business, Communication, and Leadership Competencies

- Ability to apply knowledge of business process re-engineering and analysis for efficient operations. (Mid-level)
- Ability to communicate with financial and program staffs and other end users for the purpose of determining financial management needs. (Mid-level)
- Understanding of team building approaches and skills and ability to apply them in teams made up of different functional disciplines. (Mid-level)

Acquisition and Contract Management Competencies

- Working knowledge of acquisition models, e.g., franchising, outsourcing, performance-based contracting. (Mid-level)
- Knowledge of COTR requirements. (Mid-level)

Financial Core Competencies for Senior IT Managers and Supervisors

The IT professional is now at the level of managing projects from conception to implementation and is most often responsible for the management and supervision of an organization devoted to financial management systems acquisition, implementation, and operation. Typically, the IT manager is heavily involved with such activities as procurement and Contracting Officer's Technical Representative (COTR) functions, resource management, budget allocation, planning, systems architecture and integration. At this level, skills in leadership, management and communication are essential for success. Further competence in the following areas of financial management is necessary.

Financial Systems Competencies

- Knowledge of organization's financial systems, including legislative, administrative and regulatory requirements, in order to manage the integration of these systems within the organization's environment.
- Knowledge of government-wide standards for the exchange of financial information.
- Ability to identify and interpret planning requirements resulting from legislation and oversight agencies' directives.
- Ability to define roles and responsibilities of oversight and partnering organizations within and outside the bureau/agency (such as Treasury, GAO, GSA and OMB for external oversight and the CIO/CFO within the Department and agency) as necessary to carry out new requirements.
- A general understanding of *JFMIP Framework for Federal Financial Systems* and *JFMIP Federal Financial System Requirements*.

Agency, Budgeting and Resource Management Competencies

- Obtain thorough understanding of the concepts of strategic planning.
- Identify organizational priorities and relate them to resource and budget allocation.
- Plan, manage resources, and budget for financial systems development and implementation. Evaluate costs and allocate resources necessary to develop/implement financial software solutions.
- Demonstrate the capacity to develop and monitor plans on a general basis

for the development/implementation of financial software solutions.

IT Solutions Competencies

- Evaluate proposed IT solutions and communicate technological solution alternatives including costs and time frames, to financial managers and program managers for mutual decision making. Identify efficient IRM solutions for organizational manual processes, functional needs, or problem resolution.
- Stay abreast of current technologies and how they can assist with financial systems technological solutions.
- Understand the inner technological workings of the financial systems including design, security, change management, backup and recovery procedures, and updated documentation procedures.
- Relate potential impacts of technological solutions on the organization in terms of efficiencies introduced, manual processes eliminated, and cost and resource savings.
- Build effective collaboration among IT personnel, financial system analysts, financial managers, and program managers when discussing technological solutions.
- Evaluate financial software vs. organizational needs. Understand methods for evaluation of financial software.
- Understand the procurement process for purchasing financial software.
- Demonstrate capability to establish a working relationship with providers of financial software.
- Understand the concepts and techniques of cross-servicing, outsourcing and franchising as they relate to the organization's needs and support for financial systems.

Financial Systems Oversight and Management Controls Competencies

- Identify financial system improvements through the auditing process and apply technological solutions to strengthen the system.
- Apply the concepts of business process re-engineering to the entire

financial operation to conform as much as possible to the capabilities of the financial software package selected for implementation.

Acquisition and Contract Management Competencies

- Understand IT contract management models and methods, including past performance evaluation.
- Learn IT acquisition best practices.
- Apply knowledge of alternative acquisition models, (e.g., franchising, contracting out, performance-based contracting).
- Demonstrate the capacity to act as COTR of IT contracts, including budgeting, monitoring of performance, verification and payment of invoices, allocation of funding, and resolution of issues.

Specialized Knowledge Required for Financial Management Systems

In certain instances, such as analysis, design, and development of financial management systems, the IT professional will be required to develop specialized knowledge related to the unique requirements of the particular system. The matrix that follows identifies various financial systems common throughout the government and lists the specialized knowledge required for those persons engaged in the development of those systems. It highlights the basic financial knowledge that IT personnel should acquire in order to perform their duties effectively.

SPECIALIZED KNOWLEDGE REQUIRED FOR FINANCIAL MANAGEMENT SYSTEMS

SYSTEM TYPE	DESCRIPTION	SPECIALIZED KNOWLEDGE REQUIRED*
Acquisition	Supports the acquisition process of obtaining goods and services. It prepares and tracks the status of requisitions, small purchase orders, and contracts; records and validates the receipt of goods and services; and provides information to the core financial system for matching invoices and issuing payments.	SFFAS 1-- Accounting for Selected Assets and Liabilities SFFAS 3 -- Accounting for Inventory and Related Property SFFAS 4 -- Managerial Cost Accounting Concepts and Standards for the Federal Government SFFAS 6 -- Accounting for Property, Plant, and Equipment 48 CFR, Chapter 1 -- Federal Acquisition Regulations
Benefit Payment	Supports payments of social insurance benefits and other transfer payments.	SFFAS 1-- Accounting for Selected Assets and Liabilities SFFAS 5 -- Accounting for Liabilities of the Federal Government Black Lung Benefits Act Railroad Retirement Act of 1974 USC Title 42, Chapter 7 -- Social Security
Budget Formulation	Supports the agency's preparation of budget information during the budget formulation process. It supports the establishment of a baseline from which to build the budget, tracks initial submissions and modifications to the budget, provides budget data for inclusion in the President's Budget, and tracks the status of the budget request as it moves through the process until enactment of appropriations.	OMB Circular A-11 -- Preparation and Submission of Budget Estimates OMB Circular A-34 -- Instructions on Budget Execution FMS Publication -- Budgetary Accounting in the Federal Government Principles of Appropriation Law
Core Financial	Forms the backbone for the agency's integrated financial management system. It provides common processing routines, supports common data for critical financial management functions affecting the entire agency, and maintains the required financial data integrity control over financial transactions, resource balances, and other financial systems. The core financial system supports general ledger management, funds management, payment management, receipt management, and cost management.	All FASAB Accounting Concepts and Standards U.S. Government Standard General Ledger SGL Crosswalks to Financial Reports JFMIP FFMSR-1-- Core Financial System Requirements OMB Circular A-34 -- Instructions on Budget Execution FMS Publication -- Budgetary Accounting in the Federal Government Federal Agencies' Centralized Trial-balance System Requirements

SPECIALIZED KNOWLEDGE REQUIRED FOR FINANCIAL MANAGEMENT SYSTEMS

<p>Cost Accounting</p>	<p>Supports the accumulation and reporting of financial and related information in accordance with requirements of OMB's Bulletin on "Form and Content of Financial Statements." The system provides information for the annual and other periodic reporting of summary financial and related information including audit trails to systems of original entry and adjustments.</p>	<p>SFFAS 4 -- Managerial Cost Accounting Concepts and Standards for the Federal Government SFFAS 7 -- Accounting for Revenue and Other Financing Sources and Concepts for Reconciling Budgetary and Financial Accounting Government Performance and Results Act of 1993 Government Management Reform Act of 1994 JFMIP FFMSR-8 -- Managerial Cost Accounting System Requirements Activity Based Costing</p>
<p>Direct Loan</p>	<p>Supports the management of direct loan programs in which direct disbursements are made to an approved borrower and the agency services and collects the loan. It supports the functions of loan extension, account servicing, portfolio management, and delinquent debt collection.</p>	<p>SFFAS 2 -- Accounting for Direct Loans and Loan Guarantees SFFAS 3 -- Accounting for Inventory and Related Property JFMIP FFMSR-5 -- Direct Loan System Requirements OMB Circular A-129 -- Policies for Federal Credit Programs and Non-Tax Receivables Federal Credit Reform Act of 1990 Debt Collection Improvement Act of 1996</p>
<p>Financial Reporting</p>	<p>Supports the accumulation and reporting of financial and related information in accordance with requirements of OMB's Bulletin on "Form and Content of Financial Statements." The system provides information for the annual and other periodic reporting of summary financial and related information including audit trails to systems of original entry and adjustments.</p>	<p>FASAB SRAC 2 -- Entity and Display OMB Bulletin No. 97-01 -- Formats and Instructions for the Form and Content of Agency Financial Statements U.S. Government Standard General Ledger SGL Crosswalks to Financial Reports Federal Agencies' Centralized Trial-balance System Requirements</p>

SPECIALIZED KNOWLEDGE REQUIRED FOR FINANCIAL MANAGEMENT SYSTEMS

Grant	Supports providing grants and subsidies made to state and local governments, other organizations, or individuals	<p>SFFAS 1-- Accounting for Selected Assets and Liabilities OMB Circular A-21 -- Cost Principles for Educational Institutions OMB Circular A-87 -- Cost Principles for State and Local Governments OMB Circular A-122 -- Cost Principles for Non-Profit Organizations OMB Circular A-102 -- Grants and Cooperative Agreements with State & Local Governments OMB Circular A-110 -- Uniform Administrative Requirements for Grants & Cooperative Agreements With Institutions of Higher Education, Hospitals, & Other Non-Profit Organizations Grants Management Common Rule (GMCR)</p>
Guaranteed Loan	Supports the management of guaranteed loan programs, which use private sector lenders to originate and service loans, with all or a portion of the interest and loan repayment guaranteed by the federal government in case of borrower default. It supports the functions of lender management, guarantee extension and maintenance, portfolio management, acquired loan servicing, and delinquent debt collection.	<p>SFFAS 2 -- Accounting for Direct Loans and Loan Guarantees SFFAS 3 -- Accounting for Inventory and Related Property JFMIP FFMSR-6 -- Guaranteed Loan System Requirements OMB Circular A-129 -- Policies for Federal Credit Programs and Non-Tax Receivables Federal Credit Reform Act of 1990 Debt Collection Act of 1982 (as amended) Debt Collection Improvement Act of 1996</p>
Insurance Claim	Supports payments of insurance claims under deposit insurance, pension benefit guarantees, crop insurance, and other programs in which the government provides protection against specified risks.	<p>SFFAS 5 -- Accounting for Liabilities of the Federal Government USC Title 7, Chapter 36 -- Crop Insurance USC Title 29, Chapter 18 -- Employment Retirement Income Security Program USC Title 42, Chapter 50 -- National Flood Insurance USC Title 12, Chapter 16 -- Federal Deposit Insurance Corporation</p>
Inventory	Supports the management of inventory held for sale or used in the production of goods and services for sale. It supports the functions of needs determination, inventory in storage, inventory in production, inventory disposition, and program planning and monitoring.	<p>SFFAS 3 -- Accounting for Inventory and Related Property SFFAS 4 -- Managerial Cost Accounting Concepts and Standards for the Federal Government 41 CFR, Chapter 101, Part 101-27 -- Inventory Management JFMIP FFMSR-7 -- Inventory Systems Requirements 48 CFR, Chapter 1 -- Federal Acquisition Regulations</p>

SPECIALIZED KNOWLEDGE REQUIRED FOR FINANCIAL MANAGEMENT SYSTEMS

Personnel/Payroll	Supports the agency's management of human resources. It maintains data on employees and positions, supports personnel actions and decisions, captures time and attendance information, and performs leave and payroll computations (including retirement contributions).	SFFAS 1-- Accounting for Selected Assets and Liabilities SFFAS 4 -- Managerial Cost Accounting Concepts and Standards for the Federal Government SFFAS 5 -- Accounting for Liabilities of the Federal Government JFMIP FFMSR-2 -- Personnel Payroll System Requirements USC Title 5 and Title 29 CSRS, MRS, and FERS Regulations IRS, State, and Local Tax Regulations Related to Mandatory Deductions
Property Management	Supports physical and accounting control over fixed and movable assets of the federal government.	SFFAS 6 -- Accounting for Property, Plant, and Equipment SFFAS 8 -- Supplementary Stewardship Reporting 48 CFR, Chapter 1 -- Federal Acquisition Regulations
Revenue	Supports the billing, collection, and detailed reporting of taxes, fees, and other revenues of the federal government.	SFFAS 7 -- Accounting for Revenue and Other Financing Sources and Concepts for Reconciling Budgetary and Financial Accounting SFFAS 8 -- Supplementary Stewardship Reporting FMS Publication -- Budgetary Accounting in the Federal Government -- Reimbursable Supplement
Seized/Forfeited Asset	Supports the management of property or other assets seized and/or forfeited to the federal government by federal law enforcement agencies. It tracks the status of a seized asset from the time of seizure, through various processing steps, which may include forfeiture, until final disposition of the asset.	SFFAS 3 -- Accounting for Inventory and Related Property SFFAS 7 -- Accounting for Revenue and Other Financing Sources and Concepts for Reconciling Budgetary and Financial Accounting JFMIP FFMSR-4 -- Seized/Forfeited Asset System Requirements
Travel	Supports the agency's management of travel and transportation activities and expenses. It prepares and tracks the status of travel orders, advances, and vouchers as they go through the various stages of preparation, approval, and processing.	SFFAS 1-- Accounting for Selected Assets and Liabilities OMB Circular A-127 -- Financial Management Systems JFMIP FFMSR-3 -- Travel System Requirements Federal Travel Regulations -- 41 CFR 301 - 304 IRS Regulations related to Relocation Tax Allowances

* The references cited are examples as of the date of publication of this document and are subject to additions or revisions.

Training

There are numerous courses available within each agency, from established educational institutions, and from professional education vendors for the competencies described in this document. Classroom instruction is very important in order to acquire understanding of principles, processes, and techniques. This knowledge must be reinforced by practical applications leading toward achievement of these competencies. Information technology professionals will also benefit from management training in leadership, quality management, team management and oral and written communications. These skills will facilitate application of both IT and financial management competencies.

Specific training courses will not be listed here because they frequently change. Training sources are abundant and include the Treasury Department's Center for Applied Financial Management, the USDA Graduate School, colleges and universities, and private vendors. The Internet is an excellent resource for finding specialized training courses and seminars offered by both private and public sector organizations. FinanceNet maintains a current list of training and development courses and providers which can be accessed at the following URL: <http://www.financenet.gov>.

The following example illustrates a practical progression of undergraduate course requirements that can be used to accomplish some of the competencies:

- Introduction to Financial Accounting;
- Introduction to Managerial Accounting;
- The Accounting Process;
- Accounting Systems;
- Managerial Cost Accounting; and,
- Financial Statement Auditing.

Appendix

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