*Defense Finance and Accounting Service*

Financial Management Center of Excellence



Functional Requirements Description

For

Audit Trails and System Controls

Release 9.0

May 31, 2011

Release/Version Control

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| --- | --- | --- |
| Release/Version | Date | Description of Changes |
| 5.0 | April 30, 2009 | This release contains Enterprise Level requirements applicable to Audit Trails and System Controls (ATSC), excluding General Controls. |
| 6.0 | September 30, 2009 | This release updated the Functional Requirements Description (FRD). |
| 7.0 | July 30, 2010 | This release updated the sources and FRD. |
| 8.0 | January 31, 2011 | This release contains new requirements, updates to original requirements, and source references. |
| 9.0 | May 31, 2011 | This release contains new requirements, updates to original requirements, and source references. |

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1. Introduction
	1. Background

Department of Defense (DoD) Directive 5118.5 identifies the Director, Defense Finance and Accounting Service (DFAS) as the principal DoD executive for finance and accounting requirements, systems, and functions. That role includes the responsibility to “Direct the consolidation, standardization, and integration of finance and accounting requirements, functions, procedures, operations, and systems within the Department of Defense.” Developing standard, consistent, and effective requirements for DoD finance and accounting operations and systems is a priority initiative for the DFAS Financial Management Center of Excellence (FMCoE). The FMCoE has assigned this complex program to its Shared Services Division (SSD), which has gathered requirements from current statutory laws, regulations, and guidance, in addition to requirements from existing and developing DoD finance and accounting systems. SSD used functional experts from other DFAS organizations to select and edit the appropriate set of requirements.

The requirements contained herein will become the basis for all new finance and accounting operations and system acquisitions across the Department, and all existing DoD finance and accounting systems will migrate to these requirements as their budgets and priorities dictate.

* 1. Document Purpose

The purpose of this document is to present the context for standard DoD Audit Trails and System Controls requirements. That context is a description of the DoD Audit Trails and System Controls concept of operation, its standard business practices, and its operational processes. The processes are taken from the DoD Business Enterprise Architecture (BEA) and extended, as necessary, to complete a level of detail to which the requirements can easily be assigned.

Requirements information is presented in three parts: 1) the contextual description of the requirements project and its functional area, 2) the process models for this functional area, and 3) the requirement statements and best practices for this functional area. The contextual description of this requirements project and its functional area are contained in this Functional Requirements Description (FRD). The process models, requirement statements and best practices are presented in an accompanying spreadsheet.

This release of the FRD will serve as the definitive reference for Release 9.0 Audit Trails and System Controls functional requirements. It is a “living” document and will be updated as requirements change or is refined.

* 1. Scope

This document establishes the context for the DoD standard functional requirements in the area of Audit Trails and System Controls. It also comprises the most current Audit Trails and System Controls functional requirements resulting from analyses, reviews, and validations performed by Shared Services team members and Subject Matter Experts (SMEs). Detailed accomplishments which influenced the development of this FRD may be found in Section 3.0. The accompanying spreadsheet contains updated Audit Trails and System Controlsrequirements, process model, and other related information in spreadsheet format.

The Audit Trails and System Controls project’s purpose is to develop functional requirements and business rules consistent with commercial industry best practices and compliance requirements (laws, regulations, and policies), and to map them to implementation level processes consistent with the BEA. The Audit Trails and System Controls project objectives are to:

* Present standard Audit Trails and System Controls functional requirements that can be implemented for any DoD system.
* Provide requirements detailed enough so that no functional interpretation is required by system implementers.
* Provide requirements that are necessary, achievable, uniquely identifiable, singular, concise, unambiguous, complete, consistent and testable.
* Provide relevant information related to the logistical and financial management of Audit Trails and System Controls events, enhancing system development.
	1. Definitions

As used within this document, functional requirements, business rules, and best practices are defined as follows:

Functional Requirement - A statement that describes the intended behavior of a system by describing characteristics, attributes, conditions, constraints, or capabilities to which a system must conform in order to meet a need or objective.[[1]](#footnote-1) In this document, when the word “requirement” is used, it means functional requirement.

Business Rule - A statement that defines or constrains some aspect of the business or its architecture. It describes what a business must or must not do or it describes the rules under which the architecture or its objects behave under certain conditions. Business rules are constraints that are process/activity specific and have no system impact.[[2]](#footnote-2)

Best Practice - A [management idea](http://en.wikipedia.org/wiki/Management_fad) which asserts that there is a [technique](http://en.wikipedia.org/wiki/Technique), method, process, activity, incentive or reward that is more effective at delivering a particular outcome than any other technique, method, process, etc. The idea is that with proper processes, checks and testing, a project can be rolled out and completed with fewer problems and unforeseen complications.[[3]](#footnote-3)

1. The Enterprise Functional Requirements Program
	1. Overview

 The Enterprise Functional Requirements Program is a set of projects to develop standard functional requirements, business rules and best practices for DoD finance and accounting operations and systems. The requirements and business rules will be architecture-driven - meaning that they will be aligned to processes in the DoD Finance and Accounting Operational Architecture, which itself is aligned with the DoD BEA (see Figure 1).



Figure 1. Requirements Development Concept

Compliance requirements, business rules and best practices have already been developed at the DoD enterprise functional level as part of the BEA. In most cases, the compliance requirements do not contain all the functional information necessary for an acquisition program, like GFEBS, Navy ERP, DEAMS, or BEIS, to properly implement and test the acquisition system. Therefore, this program develops functional requirements down to the level of detail such that acquisition programs do not need to make functional interpretations. Yet these requirements should not constrain the implementation in non-functional ways, for example by defining system-specific data element names. The Audit Trails and System Controls functional requirements and business rules were gathered from:

* DoD Financial Management Regulation, Volume: 6A, Chapter 2
* Business Enterprise Architecture Version 6.0
* Financial Management Systems Requirements Manual (DFAS 7900.4-M, *Blue Book*)
* Office of Financial Management (OFFM)-N0-0106, Core Financial System Requirements
* DoD Financial Management Regulation, Volume: 1, Chapter 2
* OMB Circular A-127, Financial Management Systems
* OMB Circular A-130, Management of Federal Information Resources
* National Institute of Standards and Technology (NIST) Special Publication 800-53, Recommended Security Controls for Federal Information Systems and Organizations, Revision 3
* National Institute of Standards and Technology (NIST) National Security Telecommunications and Information Systems Security Policy (NSTISSP), No. 11, Revised Fact Sheet
* DoD Instruction 8500.2, Information Assurance (IA) Implementation
* DoD Instruction 8510.01, DoD Information Assurance Certification and Accreditation Process (DIACAP)
* DoD Directive 8000.01, Management of the Department of Defense Information Enterprise
* DoD Directive 8500.01E, Information Assurance (IA)
* Defense Information Systems Agency (DISA), Security Technical Implementation Guides (STIG): Access Control STIG V2R1 and Database STIG V8R1
* [44 U.S.C.](http://en.wikipedia.org/wiki/Title_44_of_the_United_States_Code) [Section 3541](http://www.law.cornell.edu/uscode/44/3541.html)

|  |
| --- |
| Requirements Projects |
| Accounts Payable (Payment Mgmt) |
| Disbursing |
| Revenue and Accounts Receivable |
| General Ledger |
| Financial Reporting |
| Cash Accountability |
| Intra-Governmental |
| Inventory, Operating Materials and Supplies, Stockpile Materials |
| Property, Plant and Equipment |
| Managerial Cost Accounting |
| Human Resources and Payroll |
| Funds Control and Budgetary Accounting |
| Travel |
| Grants |
| Audit Trails and System Controls |
| Seized Assets |
| Eliminations (Intra-Governmental) |
| Field Level Reporting |
| Direct Loans |
| Guaranteed Loans |
| Benefits |
| Time and Attendance |
| Foreign Military Sales (Security Assistance Accounting)Non-Appropriated Fund Instrumentalities |

Table 1. Requirements Functional Areas

However, most of the requirements derived from the above are too high-level to be readily implemented by system engineers in acquisition program offices. Therefore, a large part of the effort of these requirements projects has been to refine the requirements taken from the above to bring them down to the implementation level, i.e., eliminate any need for the system engineer to make functional interpretation.

All functional requirements will adhere to the following quality characteristics: necessary, achievable, correct, unambiguous, complete, consistent, concise, singular, implementation-free and testable. Once approved, the enterprise functional requirements will be given to all finance and accounting system offices for implementation in their respective systems.

Because the DoD finance and accounting domain is so large, the enterprise functional requirements projects have been segmented into functional areas, similar to the chapters in the “Financial Management Systems Requirements Manual”[[4]](#footnote-4).

The selected set of functional areas (i.e., requirements projects) is listed in Table 1. The first seven projects were being executed in FY07 and are considered the *Core Financial Finance and Accounting* areas.

* 1. Functional Requirements Development Methodology

This, and each of the other requirements projects went through a similar process to gather, map, write, and validate requirements. Each project developed its own detailed work plan and detailed schedule taking into consideration their scope, priorities, and available resources. The SMEs were enlisted to help select those requirements that should be standardized, and they wrote additional requirements where the level of detail of those requirements initially gathered was not sufficient. The numerical order of the tasks in Table 2 indicates the approximate sequence of events.

1. Plan Project
2. Develop Processes
3. Identify and Gather Requirements, Business Rules, and Best Practices
4. Perform Mapping
5. Perform Initial Validation
6. Validate and Write Requirements
7. Deliver Release 9.0 Requirements and Documentation to Director, Shared Services for Approval

Table 2. High Level Development Tasks

* 1. Requirement Identification Format

The Audit Trails and System Controls requirements are uniquely identified by a combination of letters and numbers broken down into several parts. The first part is shown by 4 letters [ATSC] followed by a dash (-) that identifies which functional area the requirement belongs. The first set of four-position numbers after the dash is a unique number assigned to the parent requirement. Subsequent sets of two-position numbers will be assigned to show children and/or grand children to a parental requirement. As an example, XX-0001.01.01 requirement number will be used as a reference.

 **XX-**0001.01.01**:** 2 position identifier that delineates functional area

 XX- **0001**.01.01**:** Indicates this as requirement number 1 of the functional area

 XX-0001**.01**.01**:** First child of parental requirement number 1

 XX-0001.01**.01:** First grandchild of requirement number 1

1. Audit Trails and System Controls Concept of Operation

In October 2006, the SSD was tasked to establish a set of functional requirements for Audit Trails and System Controls. To accomplish this mission it was necessary to map all requirements extracted from the authoritative sources listed in section 2.1 to the current BEA model and identify any gaps if they existed.

First, the work group gathered existing Audit Trails and System Controls functional requirements and business rules from available sources. These requirements were consolidated, reviewed and pre-validated by the working group.

Next, Audit Trails and System Controls SMEs were invited to participate in a series of Joint Application Development (JAD) sessions to review and validate the requirements for applicability as a DoD standard in each process area. The functional requirements were defined to a level ensuring consistency of internal controls, reporting, and accounting and to make certain each functional requirement can be implemented consistently across all Enterprise Resource Planning (ERP) systems. If SMEs felt additional requirements should be written to add clarity or detail, they drafted new requirements. If issues were uncovered at any time during this development process, they were identified, logged, and worked toward resolution.

The accompanying spreadsheet contains the standard functional requirements, business rules, and best practices mapped to the appropriate DFAS process flows/steps.

* 1. Audit Trails and System Controls Functional Overview

Functional requirements developed for Audit Trails and System Controls are driven by operational architecture and compliance requirements. One of the features of this project is the validation of the BEA processes and their extension, where needed. As such, the business processes models defined in the BEA OV-6c model would be used as a starting point for the identification and development of more detailed Audit Trails and System Controls business processes. This includes identifying the BEA process diagrams, BEA process name, and the DFAS process name (e.g. Audit Trails). However, the BEA 8.0 does not provide business processes or diagrams for Audit Trails & System Controls. Therefore, the team developed a list of DFAS processes / activities.

The following are areas and their related DFAS processes / activities:

* Audit Trails
	+ Audit Trails
* Application Controls
	+ Document and Transaction Control
	+ Document Referencing and Modification
	+ Workflow/Messaging
	+ Document Management
	+ Operations
* General Controls
	+ General Design/Architecture
	+ Disaster Planning
	+ Security
	+ Infrastructure
	+ Interoperability
	+ Internet access
	+ User interfaces
	+ System-Generated Transactions
	+ Ad-hoc query
	+ System performance
	+ Documentation

Because of ATSC pervasiveness to all business processes, it is impractical to develop models. Therefore, the processes / activities are identified within the functional requirements however, no process models were created.

* 1. Audit Trails and System Controls Practices

The requirements in the accompanying spreadsheet were developed for all systems and business operations to be compliant with the Audit Trails and System Controls DoD financial and accounting requirements. Additionally, by complying with these requirements, systems and business operations will be compliant with the applicable laws, regulations and policies.

* 1. Release 9.0 Scope
		1. Map Requirements to BEA Processes

During Release 9.0 the Shared Services completed integration or cross function validation of the functional requirements. In Release 9.0 requirements would have been mapped to the lowest level possible within the BEA and if appropriate to multiple lower levels if they existed. However, the BEA does not include diagrams that apply to Audit Trails and System Controls.

* + 1. Review Requirements Linked by Processes

The Shared Services Branch further integrated functional requirements by identifying requirements that were touch points between functions. The teams conducted cross team reviews and updated the requirements based upon touch points between the functions.

* + 1. Validate Requirements Source Information

Authoritative Source updates to the requirements included Regulation or Policy changes received through May 2011. Shared Services updated the requirements based upon peer and Branch Supervisory reviews.

* + 1. Perform Team Quality Review of Requirements

In Release 9.0, the functional branches continuously performed internal team review of the requirements to ensure that all functional requirements adhered to the following quality characteristics: necessary, achievable, correct, unambiguous, complete, consistent, concise, singular, implementation-free, and testable. All requirements that were not written to the standards above were either: rewritten, rejected or transferred for management decision.

* + 1. Develop Additional Process Models

Audit Trails and System Controls did not develop additional process models.

* + 1. Compare Requirements to DoD Transaction Library

The Audit Trails and System Controls requirements were not compared to the DoD Transaction Library since Audit Trails and System Controls does not create transactions.

1. Audit Trails and System Controls Points of Contact
	1. Shared Services Division Hotline Email

The SSD has established a hotline email address which may be used to provide comments or request information regarding the use of the Audit Trails and System Controls FRD. The Shared Services Hotline email is fmcoesharedservices@dfas.mil.

* 1. World Wide Web

The FMCoE, SSD has established a web site titled "Standard Finance & Accounting Requirements" which may be used to access Audit Trails and System Controls Requirement Documentation. The web site URL is: <http://www.dfas.mil/dfas/fmcoe/sfareq.html>.

* 1. Scenario Database

Shared Services implemented a Scenario Database for writing, storing, updating and retrieving the functional requirements for mapping to various Scenarios. Requirements for all functional areas are included in the Database. Tailored Access Reports are available for staff use; however, tailored Access Reports can be made available for customer use upon request.

* 1. BEA 8.0 Architecture

Below is the link to the BEA 8.0 architecture where you can view diagrams, processes, and activity models.

 <http://www.bta.mil/products/BEA_8_0/index.htm>

# Appendix 1 - Acronyms

|  |  |
| --- | --- |
| ATSC | Audit Trails and System Controls |
| BEA | Business Enterprise Architecture |
| BEIS | Business Enterprise Information Services |
| DEAMS | Defense Enterprise Accounting and Management System |
| DFAS | Defense Finance and Accounting Service |
| DIACAP | DoD Information Assurance Certification and Accreditation Process |
| DISA | Defense Information Systems Agency |
| DoD | Department of Defense |
| ERP | Enterprise Resource Planning |
| F&A | Finance and Accounting |
| FMCoE | Financial Management Center of Excellence |
| FMR | Financial Management Regulations |
| FRD | Functional Requirements Description |
| GFEBS | General Fund Enterprise Business System |
| IA | Information Assurance  |
| IG | Intra-Governmental |
| JAD | Joint Applications Development |
| NIST | National Institute of Standards and Technology |
| OFFM | Office of Financial Management |
| OMB | Office of Management and Budget |
| SFFAS | Statement of Federal Financial Accounting Standards |
| SFIS | Standard Financial Information Structure |
| SME | Subject Matter Expert |
| SSD | Shared Services Division |
|  |  |
|  |  |

1. SSD Roadshow Presentation [↑](#footnote-ref-1)
2. DoD Architecture Framework, Vol. II [↑](#footnote-ref-2)
3. Wikipedia (www.wikipedia.com) [↑](#footnote-ref-3)
4. 4 Formally, this document is entitled DFAS 7900.4-M, Financial Management Systems Requirements Manual. Informally, this book is sometimes referred to as the *Blue Book*. [↑](#footnote-ref-4)