

Subject	Туре	Standard
System Requirements Specification	Identifier	S-3051
	Effective Date	May 2002
	Revision No.	1
Approval	Lang & Winght D	

CISSCO Program Director

A. PURPOSE

This standard specifies content and format requirements for the System Requirements Specification (SRS) Document.

B. APPLICABILITY

This standard applies to all Projects that contain an IT Component. It is, initially, used by those persons who define initial Project requirements to establish the scope of the Project and analyze alternatives solutions. This document is updated as new requirements are incorporated into the system through additions to functionality, etc. to the applications automated and manual processes. These changes are made through the authorized change and review processes (see P-2501 and P-2502).

C. REFERENCE PUBLICATIONS

The following publications contain related information:

- SDLCM Methodology Handbook, Component 1
- SDLCM Methodology Standard, S–1051, Project Charter
- SDLCM Methodology Standard, S-3052, Current System Assessment Document
- SDLCM Methodology Standard, S-3151, Data Models
- SDLCM Methodology Standard, S-3162, Context Diagrams
- SDLCM Methodology Standard, P-2501, Configuration Control Board
- SDLCM Methodology Standard, P–2502, Change Proposal
- Project Initiation Plan (if Project is a result of Enterprise Integration/Migration activities

D. STANDARD

Use the SRS Document to summarize the results of the System Requirements Specification activities of SDLCM Methodology Component 1 into an organized and logically flowing deliverable. The following paragraphs describe the content of each section.

Note that the SRS Document is a working document that is created initially as an activity within Component 1 of the SDLCM Methodology. The SRS Document is updated at defined milestones during the Project's life cycle and as necessary as the Project matures.

Subject	Туре	Standard
System Requirements Specification	Identifier	S–3051
	Effective Date	May 2002
	Revision No.	1

1. INTRODUCTION

1.1 Background

Briefly describe the Project relative to the client's mission. Explain why the Project has been initiated, its importance to the client, the specific results or long-term objectives the client wants to achieve, and the Project's contribution to the overall strategy. Also describe the problem to be solved or the product to be developed in enough detail to support planning.

1.2 Objectives

Specify the client's business objectives that this Project is to support, the critical functions the Project should achieve, and the quantifiable criteria the Project must meet to succeed.

1.3 Scope

Specify those aspects of the client's situation—such as customers, products, processes, organizations, locations, or applications—that are to be included in the Project and those that are to be excluded. For example, if the Project is to develop a new system, this section describes the scope of the proposed system in terms of the business processes or functions to be included and addressed.

Describe the external influences and impacts—such as interfaces, customer needs, and regulatory requirements—that are to be addressed by the Project.

Specify any constraints, or restrictions, associated with the Project. A constraint may relate to Project approach, priorities, personnel, time, technologies, environments, decision cycles, tools and techniques, or other aspects of the Project. Discuss how management will control identified constraints to ensure Project success.

1.4 Assumptions

Specify the major assumptions used to establish the Project estimates, plans, and approach. Assumptions are expectations, which have not been stated explicitly, that form the basis for Project decisions. Assumptions are also necessary for each identified issue if the Project is to continue while issues remain unresolved. In this case, include the degree of criticality with the description of each assumption.

1.5 Applicable Documents

List any other documents that apply.

1.6 Overview

Table 1 shows the evolution of the SRS Document, using the Project Charter as a beginning point.

Table 3051–1. SRS Document's Component Sections in Relationship to Component 1 Activities

ACTIVITIES	DELIVERABLES
Clarify Scope of the Project	System Requirements Specification Document • Background • Objectives
	Scope
Identify Requirements	System RequirementsData Requirements

2. SYSTEM REQUIREMENTS

The purpose of this section is to define the systems requirements. Requirements for the system are categorized as functional, performance, operational, programmatic, accessibility, security, records management, etc.

State individual requirements in quantitative terms. Avoid the use of negative requirements. Consider how these requirements can be validated/tested for satisfaction when defining the requirement. Ensure that thoughts and definitions are: complete, consistent, and concise when writing each requirements. Take care to document assumptions that are converted to requirements (i.e., *knowledge of user of the business area, rules/management directive rewrites and approvals, etc.*). Try to provide requirements that do not presume a design approach (i.e., do not presume a vendor product line, etc.).

Number all requirements uniquely to facilitate traceability.

2.1 Functional Requirements

Identify all system function requirements ensuring that all requirements derived from the Systems and Operational Concept Document (SOC) and other user need and client requirements are captured.

Organize the requirements into functional areas. For each function area, define, as appropriate:

- Input data
- Process(es) (algorithms, transformations, manipulations, calculations)
- Output data
- External interfaces
- Communications
- Special management information needs
- User Training and knowledge level (business and platform)

Use data requirements and system control as section headings, if appropriate.

Include a separate subsection for each functional area.

Subject	Туре	Standard
System Requirements Specification	Identifier	S-3051
	Effective Date	May 2002
	Revision No.	1

2.2 Performance Requirements

Decompose the performance requirements section into the following subsections, as appropriate:

- External workloads (for example, total size of data input per day)
- Internal function workloads (for example, function X must compute responses within 18 milliseconds)
- Throughput and response times (for example, complete simple query in the designated time period)
- Data quality, integrity, accuracy (for example, some elements must be accurate to a certain number of significant figures)
- Data retention (for example, number of years to retain data on-line versus long-term storage)
- System and communications capacity (for example, maximum number of communications lines connected to the system)
- Reliability, maintainability, and availability (for example, mean time between failures, mean time to repair)
- Periodicity, precision, simultaneity, frequency of transactions, processing, operations (for example, the system must process 10,000 transactions per second)
- Human workload and performance (for example, generation of a designated number of reports per day)
- Growth, flexibility, and expandability (for example, the system shall be capable of supporting four additional interfaces)
- Fault detection and isolation
- Backup and Recovery (period of retention, etc.)

2.3 **Operational Requirements**

Decompose the operational requirements section into the following subsections, as appropriate:

- Human factors (for example, user interface, keyboard layouts, display panel design, display formats)
- Environment (for example, temperature, humidity, air conditioning, shock and motion, shelf life)
- System monitoring
- Configuration control (for example, automated configuration control software)
- Training (for example, operator training and user business knowledge)
- Support capabilities (for example, checkpoint and restart)
- Maintenance (for example, preventive maintenance)
- Logistics (for example, tracking of magnetic tapes)
- Facilities (for example, government-furnished equipment, test equipment, space, environmental such as heating and air conditioning)

- Safety (for example, fire, grounding of electrical equipment, requirements intended to prevent personnel injury)
- Security (for example, facility access, password protection, software, and data security requirements)
- Geographic location (for example, multiple sites)
- Documentation (for example, users or operations guides)

2.4 **Programmatic Requirements**

Decompose the programmatic requirements section into the following subsections, as appropriate:

- Development facility
- Development support requirements or constraints
- Special test requirements
- Installation, phase-in, and turnover
- Schedule and budget constraints
- Growth, flexibility, and expandability
- Development standards
- Procurement activities
- Shipping and storage requirements

2.5 Special Requirements

Specify any system requirements that are not appropriate for inclusion in any of the previous sections.

2.5.1 ACCESSIBILITY REQUIREMENTS FOR INDIVIDUALS WITH DISABILITIES (Section 508 compliance requirements)

2.5.2 RECORDS MANAGEMENT REQUIREMENTS

3. DATA REQUIREMENTS

Define the data requirements of the Project, including

- A list of entities, that is, things that you want to keep information about
- The entity definitions, that is, attributes of the entities
- A context diagram to explain the relationships among the entities.

Subject	Туре	Standard
System Requirements Specification	Identifier	S-3051
	Effective Date	May 2002
	Revision No.	1
		q

3.1 Entity List and Definitions

Identify those top-level entities required by the Project. Include only those entities shown in the context diagram and known at the functional level. (Note that the SRS Document defines initial Project requirements and analyses of alternative solutions. It is not a system requirements analysis and design document. A complete list of entities will be created and documented in the Logical Design Document, S–3171, as a product within Component 3, Design the Solution.)

Provide basic information for each top-level entity as an entity definition:

- Name
- Identifier (primary key)
- List of included subtypes, if any
- Description (several sentences)
- Average volume at conversion
- Annual growth percentage
- Active life
- Estimated size in characters (preliminary)
- Source of the data for the entity (existing or to be created) or method of derivation from existing or to-be-created source(s)

Compare the entity list with the Enterprise Model to ensure consistency and to avoid conflict.

3.2 Context Diagram

Provide a pictorial view of the entities and the relationships among the entities. (See SDLCM Methodology Standard S–3162, Context Diagrams.)

For each entity in the context diagram, provide:

- Name
- Description (one or two sentences)
- Cardinality

ACRONYMS

List and define all acronyms used in the System Requirements Specification.

REFERENCES

List all cited references.