**Architecture Management Plan**

**System X Program**

1 January 20XX

**Our Company Name**

**Our Company Address**

**Any City, ST 012345**

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Signature Page

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**Revision History**

| Date | Issue | Description | Author |
| --- | --- | --- | --- |
| 1 January 20XX | 1.0 | Original | Joe E. Architect |
| 2 January 20XX | 1.1 | Update of Plan to reflect document re-organization | Ivan T. Terrible |

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# Introduction

## Scope

Describe the scope of the architecture effort on the program. Describe any defined phases of the architecture effort and how they generally align with the program development schedule. For example, if the program schedule is broken into phases, describe how the architecture effort fits into those phases.

## Objectives

Describe the objectives of the architecture effort. Describe what are the desired outcomes of the performing the architecture effort. Describe how the results of the architecture effort benefit the program.

Describe the goals of the architecture effort. Goals are different from objectives. These terms are often confused. Business usage often differs from technical usage. Here, Objectives are general statements about what the program is seeking to accomplish with the architecture effort. Goals are specific, quantifiable measures that must be met.

# Applicable Documents

## External Documents

List any external documents that have a bearing on or otherwise constrain the development of the system architecture. These could be external stakeholder requirements documents, Concept of Operations documents, Industry Standards, Government Regulations, etc.

## Internal Company Documents

List any internal company documents that have a bearing on or otherwise constrain the development of the system architecture. These could be company process instructions, company organization charts, etc.

## Program Documents

List any program documents that have a bearing on or otherwise constrain the development of the system architecture. These could be program process instructions, program organization charts, etc.

## Document Precedence

Describe the hierarchy order of documents that govern the development of the system architecture. In the case of conflicts, define the rules by which hierarchy of conflicting documents is resolved.

# Approach

## Background

Describe the major features of the system architecture that warrant conformance to this Architecture Management Plan. Indicate briefly how conformance to the Architecture Management Plan benefits the development of the System Architecture.

## System Overview

Provide a brief overview of the system for which the architecture is being developed. Provide enough information that the context of the system architecture is understood (what is part of the system that will be part of the architectural description, what is outside of the context and will not be included in the architectural description).

## Known System External Interfaces

Provide a brief description of the external systems that the system under development will communicate with. Communications can be any kind of information or material exchange, not just radio, etc. It could be transfer of fluid, force, etc.

## Source of System Requirements

Describe briefly the primary sources of requirements that drive the development of the System Architecture. Describe briefly how and where the requirements are managed and housed. Describe the tools that are used to manage the requirements and manage the exchange of those requirements with the architecture development tool(set). If the requirements have a hierarchical order, describe briefly the nature of that order, such as a document tree. If the requirements are contained in a separate document, describe that document. Make sure such a document is described in Section 2.

# Architecture Development and Documentation

## Architecture Development Approach

Describe the set of instructions that govern the development of the System Architecture. These should be included in the section that covers Applicable Documents. Describe briefly the basic approach to developing the System Architecture, including a brief summary of the major process steps, and any key attributes of the System Architecture development process that need to be emphasized.

Describe briefly the specific techniques or methodologies to be used in developing the System Architecture. If these techniques are described in detail in other documentation, reference that documentation here. If the development of specific model elements is delegated to different Integrated Product Teams (IPTs), identify the process documents that govern the development of the System Architecture within each IPT. Any such development technique guidance documents should be included in the section that covers Applicable Documents.

## Architecture Description

Describe the plan for providing a description of the System Architecture. If delivery of the architecture description includes the use of automated tools, describe briefly the tool(set) used to prepare the architecture description for delivery.

Describe briefly the hierarchy of documents that constitute the architecture description.

If the architecture description is governed by or follows a published architecture framework, identify that architecture framework. Any such architecture framework should be included in the section that covers Applicable Documents.

(Note: The use of a standard architecture framework to convey the architecture description is strongly encouraged.)

If the architecture description is governed by or follows a published modeling language, identify that modeling language. Any specifications that govern those modeling languages should be included in the section that covers Applicable Documents.

(Note: The use of a standard modeling language to express the architecture description is strongly encouraged.)

## Architecture Model Organization

Briefly describe the organization of the System Architecture model. If the System Architecture is large enough to require the architecture to be subdivided into several models, describe the hierarchy of models that constitute the entire System Architecture.

# Architecture Workflow

## Architecture Development Processes

Describe the specific processes that have direct influence over the development of the System Architecture. These processes could come from Program instructions, Company processes, and Civil and Industrial standards. Remain focused on processes and procedures that directly affect the development of the System Architecture.

## System Architecture Development Work Flow

Describe the high-level System Architecture development work flow. Provide a graphic that illustrates the work flow. The work flow process steps should be limited to no more than six steps. The described process should include reference to addressing requirements, establishing baselines, and iterating to the next release.

## System Requirements Flow

Describe how requirements are brought into consideration in the development of the System Architecture. If the requirements are organized into a hierarchical structure such that requirements come from various sources (such as electronic documents), indicate the process by which these various sources are resourced during the architecture development process. Provide a graphic that illustrates the process if this aids in understanding the process flow. Any known requirements documents should be included in the section that covers Applicable Documents.

If the requirements source document includes Interface Control Documents (ICDs), or descriptions of Use Cases and/or Activity Diagrams, describe how these requirements source elements are processed for incorporation into the System Architecture model.

## Architecture Model Releases

Describe the process for releasing the architecture model and description. Describe who will receive these products and the required format. If the System Architecture will be released in phases, then describe the process by which that phased release will be accomplished. Indicate how the planning of the release of the System architecture in phases is in synchrony with and supports the overall program development cycle. Indicate the major considerations that went into defining the breakpoint in the System Architecture development for each of the phases. Provide a graphic that illustrates the process if this aids in understanding the process flow.

# Architecture Development Tools

Provide a list of the tools to be used in the architecture development effort. Describe briefly how the tools are integrated to provide the needed data flow path and products. Provide a graphic that illustrates the data and/or process flow paths if this aids in understanding the overall integration scheme.

## Architecture Modeling Tools

Describe the architecture development tool(set). Explain briefly why this tool(set) has been chosen over other options. If multiple tools are integrated to provide the needed capability, describe in more detail the data/process flow paths and products. Provide a graphic that illustrates the data and/or process flow paths if this aids in understanding the overall integration scheme.

## Architecture Description Publication Tools

Describe the architecture description publication tool(set). Provide a graphic that illustrates the data and/or process flow paths if this aids in understanding the overall integration scheme.

## Requirements Management Tools

Identify the requirements management tool(set). Explain briefly how this tool and the associated process flow integrate with the architecture modeling tool/process flow. Provide a graphic that illustrates the data and/or process flow paths if this aids in understanding the overall integration scheme.

## Configuration Management Tools

Identify the configuration management tool(set) being used on the program. Explain briefly how this tool and the associated process flow integrate with the architecture modeling tool/process flow. Provide a graphic that illustrates the data and/or process flow paths if this aids in understanding the overall integration scheme.

## Interface Management Tools

Identify the interface management tool(set). Explain briefly how this tool and the associated process flow integrate with the architecture modeling tool/process flow. Provide a graphic that illustrates the data and/or process flow paths if this aids in understanding the overall integration scheme.

# Resources

## Personnel Roles and Responsibilities

Describe the roles that have been defined for the various architecture development tasks. These roles encompass the activities ranging from architecture planning and management to architecture tool use for construction of the architecture model, and managing changes within the model. If the role hierarchy structure is too complex to cover in this document, then address the roles related to day-to-day development and maintenance of the System Architecture Model in a separate System Architecture Model ConOps document. Indicate that all personnel filling roles defined here must take appropriate training to become conversant in the selected modeling tools, languages, and frameworks.

### Chief Architect

Depending on the scale of the System Architecture development effort, there could be a single Chief Architect, or there could be a staff of Chief Architects responsible for the development of various elements of the System Architecture, while reporting to an overall Program Chief Architect. Several Chief Architects may be appointed to lead specific IPTs in their development efforts of the architecture. If this is the case, it is recommended that an Architecture Model Working Group be established, of which these Chief Architects would maintain membership to make decisions on the organization and maintenance of the System Architecture Model. In addition to leading IPTs, additional Chief Architects may be assigned to address lower tier architecture elements, related to support system, logistics, training, etc.

### Model Administrator

Depending on the scale of the System Architecture development effort, there could be one or more Model Administrators subordinate to a Chief Architect and responsible for designing and maintaining the organizational and packaging structure of the architecture model within the architecture modeling tool and/or the configuration management tool, . Model Administrators create new architecture model packages and ensure model elements are placed in the correct packages.

### Model Developer

Model Developers contribute to the System Architecture Model development, and are designated as architects. Model Developers take direction from Chief Architects and their subordinates on architecture design, create model elements and diagrams, maintain the architecture model with updates, perform model tool maintenance, and produce model artifacts for delivery internally and externally.

### Architecture Reviewer

Reviewers of the System Architecture include members of the Program Development Team, and members of the stakeholder community. The intent of in-process reviews is to assure that the ongoing architectural model development activities and resulting artifacts conform with process controls, meet program objectives and quality targets, and that the resulting architecture satisfies program requirements.

## Computing Resources

Identify the kinds of computing resources that are required to meet program objectives with regard to the architecture development effort, and to do so within budget and on schedule. Address needs in various categories of equipment, including desktop computers, mainframe computers, servers, software licenses, infrastructure, networking, computer facilities, IT support, vendor support, etc. Address details of these various resource needs in subparagraphs as appropriate. With regard to software licensing, list all software with any kind of licensing considerations.

# Technical Process Participation

## Requirements Development Process

Describe to what degree the System Architecture staff will participate in the Requirements Development process. Describe any Requirements Development roles that System Architecture team members will assume while conducting Requirements Development activities. Identify the Requirements Development Plan that governs that process.

## Detail Design Process

Describe to what degree the System Architecture staff will participate in the Detail Design process. Describe any Detail Design roles that System Architecture team members will assume while conducting Detail Design activities. Identify the Detail Design Plan that governs that process.

## Integration Process

Describe to what degree the System Architecture staff will participate in the Integration process. Describe any Integration roles that System Architecture team members will assume while conducting Integration activities. Identify the Integration Plan that governs that process.

## Requirements Verification Process

Describe to what degree the System Architecture staff will participate in the Requirements Verification process. Describe any Requirements Verification roles that System Architecture team members will assume while conducting Requirements Verification activities. Identify the Requirements Verification Plan that governs that process.

## Configuration Management Process

Describe to what degree the System Architecture staff will participate in the Program Configuration Management process. Describe any Configuration Management roles that System Architecture team members will assume while conducting Configuration Management activities. Whether the System Architecture development effort participates in the overall Program Configuration Management process or conducts its own Configuration Management process, identify the Configuration Management Plan that governs that process.

## Risk Management Process

Describe to what degree the System Architecture staff will participate in the Program Risk Management process. Describe any Risk Management roles that System Architecture team members will assume while conducting Risk Management activities. Whether the System Architecture development effort participates in the overall Program Risk Management process or conducts its own Risk Management process, identify the Risk Management Plan that governs that process.

# Reviews, Metrics, and Process Controls

## Architecture Reviews

Describe to what degree the System Architecture will be covered in Program Reviews. Describe to what degree the System Architecture will be covered in internal System Architecture Team reviews. Describe any roles that System Architecture team members will assume while conducting architecture review activities. Whether the System Architecture development effort participates in the overall Program Review process and/or conducts its own review process, identify the Work Product Evaluation Plan that governs the process.

If the Architecture Review process includes the use of internal or external formal assessment methods, such as the Architecture Trade-Off Analysis Method (ATAM) by the Software Engineering Institute (SEI), then indicate the methods being used and how they will be employed in the review process.

## Metrics

Identify any and all Technical Performance Measurements (TPMs) and any other measure types assigned to the System Architecture. Identify any assignment mechanism employed within the System Architecture development process that assigns architecture staff to be responsible for tracking and reporting on performance in meeting these measures.

## Process Controls

Identify the program document (such as the Systems Engineering Management Plan (SEMP)) that governs the overall Systems Engineering process which the System Architecture development process is a part of.

### Architecture Working Group

Identify the structure and positions within the Architecture Working Group, if such a group is stood up on the program. Provide a graphic that illustrates the organizational structure of the Architecture Working Group.

# Appendix A – Acronyms and Abbreviations

**-A-**

A Acronym

# Appendix B – Glossary

**Term** – Definition of the term.