

*CMMI*  
**Template:**  
**Software Architecture Document**

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**Effective date:** September 12, 2011  
**Version:** 1.0  
**Template ID:** Base\_Template\_ODT\_1\_0.ott (version 1.0)

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## Document Control

Version	Change description	Changed by	Date	Approved by	Date
<x.y>		<First Name> <Last Name>-<Middle Name>	<MMMM DD, YYYY>	<First Name> <Last Name>-<Middle Name>	<MMMM DD, YYYY>

## Template Control

Version	Change description	Changed by	Date	Approved by	Date
0.5	Initiate and update content	Khanh Ngo-Duy	May 15, 2011	N/A	N/A
1.0	Approve and baseline	Anh Hoang-Van	September 12, 2011	Nhuan Lai-Duc	September 12, 2011

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## Review Records

Version	Defects	Types	Severity	Reviewed by	Date
0.5	Format and consistency	W	Minor	Hien Nguyen-Van	August 11, 2011

### **Type:**

**A** – Ambiguous (something described unclearly, unintelligibly)  
**M** – Missing (something needs to be there but is not)  
**W** – Wrong (something is erroneous with something else)  
**E** – Extra (something unnecessary is present)

### **Severity:**

Fatal, Major, Minor, Cosmetic

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## 1. Introduction

*[The introduction of the **Software Architecture Document** provides an overview of the entire **Software Architecture Document**. It includes the purpose, scope, definitions, acronyms, abbreviations, references, and overview of the **Software Architecture Document**.]*

### 1.1. Purpose

*[This section defines the role or purpose of the **Software Architecture Document**, in the overall project documentation, and briefly describes the structure of the document. The specific audiences for the document is identified, with an indication of how they are expected to use the document.]*

### 1.2. Scope

*[A brief description of what the Software Architecture Document applies to; what is affected or influenced by this document.]*

### 1.3. Definitions, Acronyms, and Abbreviations

*[This subsection provides the definitions of all terms, acronyms, and abbreviations required to properly interpret the **Software Architecture Document**. This information may be provided by reference to the project's Glossary.]*

### 1.4. References

*[This subsection provides a complete list of all documents referenced elsewhere in the **Software Architecture Document**. Identify each document by title, report number (if applicable), date, and publishing organization. Specify the sources from which the references can be obtained. This information may be provided by reference to an appendix or to another document.]*

### 1.5. Overview

*[This subsection describes what the rest of the **Software Architecture Document** contains and explains how the **Software Architecture Document** is organized.]*

## 2. Requirements and Solution

### 2.1. Requirements and Constraints

*[This subsection describes the user requirements that the system / component will need to resolve. It also captures the special constraints that may apply: design and implementation strategy, development tools, team structure, schedule, legacy code, and so on.]*

### 2.2. Alternatives and Solution

*[This subsection describes the alternatives that are possible to resolve problems described in the requirements. It also describe the Pros & Cons of each alternative.*

*At the end of this subsection it states what solution is selected and reasons why that solution is selected.*

*In case of having only one alternative, this section should briefly describe the solution to state that it would resolve problems.]*

## 3. System Architecture

*[This section display the system / component architecture, it can be an image or link to a file. And briefly describes all the elements in the architecture.]*

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## 4. Use Case View

*[This section lists use cases or scenarios from the use-case model related to the current system / component.]*

## 5. Logical View

*[This section describes the parts of the design, such as its decomposition into subsystems / components. And for each, its decomposition into classes and class utilities. You should introduce classes and describe their responsibilities, as well as relationships, operations, and attributes.]*

### 5.1. Overview

*[This subsection describes the overall decomposition of the design in terms of its subsystems / components hierarchy and layers.]*

### 5.2. Subsystem / Component Designs

*[For each subsystem / component, include a subsection with its name, its description, state diagram, activity diagram, interface, events / signals, screen layout and all significant classes and packages contained within the subsystem / component.*

*For each class, include its name, description, and its responsibilities, operations, and attributes.]*

### 5.3. Interface Designs

*[For each interface, include a subsection with its name, its description. There should be table to list all inputs and outputs of the interface, as well as the data type of each input, output]*

### 5.4. User Interface Prototype

*[The prototype of user interface can be put here or a link refers to the prototype.]*

## 6. Process View (optional)

*[Optional, This section describes the system's decomposition into lightweight processes (single threads of control) and heavyweight processes (groupings of lightweight processes). Organize the section by groups of processes that communicate or interact. Describe the main modes of communication between processes, such as message passing, interrupts.]*

## 7. Deployment View (optional)

*[This section describes one or more physical network (hardware) configurations on which the software is deployed and run. It is a view of the Deployment Model. At a minimum for each configuration it should indicate the physical nodes (computers, CPUs) that execute the software and their interconnections (bus, LAN, point-to-point, and so on.) Also include a mapping of the processes of the Process View onto the physical nodes.]*

## 8. Data View (optional)

*[Description of the persistent data storage perspective of the system. This is where database design is put. This section is optional if there is little or no persistent data, or the translation between the design and the database is trivial.]*

## 9. Size and Performance (optional)

*[A description of the major dimensioning characteristics of the software that impact the architecture, as well as the target performance constraints.]*

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## 10. Quality (optional)

*[A description of how the software architecture contributes to all capabilities (other than functionality) of the system: extensibility, reliability, portability, and so on. If these characteristics have special significance, such as safety, security or privacy implications, they must be clearly delineated.]*