

**VIETTEL PERU**

**<DEPARTMENT: >**

**<Project name>**

**OVERAL DESIGN**

**Project code:**

**Document code:**

**<Lima, Date>**

**TRACING TABLE**

\*A – Create New, M – Modify, D – Delete

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| **Day**  **change** | **Position**  **change** | **A\***  **M, EASY** | **Source** | **DISCIPLINE** | **Description change** | **Note** |
| October 15, 2010 | Request change number 1 | A | Dispatch XYZ | PTC, PKH | Content requested to change |  |
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# INTRODUCE

[The introduction to the system architecture document should provide an overview of the document including the purpose of the document, concepts, terminology, and related references.]

## Purpose

This document provides an overview of the system through a number of different architectural models to describe the system from different perspectives. This document is expected to document and communicate important decisions about the system's architecture.

[This section defines the role or purpose of the system architecture document and briefly introduces the document's layout. It should be specified who will read this document and how it will be used.]

## Limit

[A brief description of what does the System Architecture document serve? What are the implications or effects of this document?]

## Concepts and terms

[This section will provide definitions of all the concepts, terms, etc. used in the System Architecture document.]

## References

[The section lists a complete list of all external references. Each document is identified by its title, author, and issue date, and must also indicate whether the work is available or for reference only. If appropriate, specify the report number, title of journal, and issuer of the document.]

## Document Description

[This section will introduce the rest, which are not included in the above four sections, of the System Architecture document and also introduce the layout of the System Architecture document.]

# Requirements Affecting Architecture

This section will describe the requirements and objectives for the software that have an important impact on the architecture, for example, safety, security, privacy, reuse, etc. This section must recognize specific constraints. which can affect: Design and implementation strategy, development tools, project team organization, plan, etc.

In addition, this section should discuss in detail the critical factors that can affect system architecture such as:

* Data size and growth
* Number of transactions
* Number of concurrent connections
* Real-time/batch processing requirements
* Request processing online / offline
* Environment requirements (database, tools, 2-3 layers) of customers if any
* Security requirements
* Request backup/data backup

# APPLICATION ARCHITECTURE

## Classification model

[This section addresses the following issues:

- Sample application model (e.g. MVC model)

- Reusable parts (based on Viettel framework)

- Communicating with other systems

]

Sample example:



The transaction processing between the layers is as follows:

Start trading

Client sends request to server

Controller receives requests, processes requests sent to Action

Action calls the Model handlers corresponding to the request

Model class uses hibernate to manipulate Database

Based on the return result of the Action, the Controller calls the corresponding display page (JSP, htm, html) on the user's client via HTTP Response.

End of transaction

Separating the system into 3 different layers will ensure the use of many forms of communication with users such as through business programs, accessing by Web...depending on habits, qualifications and functions capabilities of user groups. Dividing the system into several layers also helps to share business processing components in different application areas, and when upgrading, changing business processes has less impact on the interface of the current system. , less need to edit programs running on workstations and reduce the amount of data transferred between servers and workstations while also increasing the processing speed of the system.

Framework-based application model



## Functional/subsystem decomposition model

[This section addresses the following issues:

- One: Draw a diagram describing the application model according to the main modules (overall model by module)

- Two: Briefly describe the meaning and function of each module- The main processes in each module. Communicate with other modules if any

]

Example: Designing a functional decomposition model of a network quality control system

### 3.2.1. Overall model



### 3.2.2. Description of the catalog management module

Catalog management module allows users to add, edit and delete information related to HLR switchboards, digital sims, devices (handset for testing)

### 3.2.3. Description of the test management module

The test management module allows users to build tests, in the tests the user executes the construction of test cases, in the test cases are test actions related to the mobile network system (execution of a call). call, check MCA, text, connect data, ....). The test execution function allows the user to load pre-built test scripts, add input parameters, and then execute the test according to those parameters.

### 3.2.4. Description of the statistical reporting module

### 3.2.5. Description of the system administration module

## Communicating with other systems

[This section shows the following:

- Model of communication with external systems

- Protocol (interface to communicate with external systems)

]

Eg:

### 3.2.1. Communicate with VSA admin system



The application requires authentication of user rights to the Passport system via HTTPS protocol

The Passport system authenticates the user access and returns user rights to the application.

### 3.2.2. Communicating with the SMSGW . system



The application sends messages by connecting to the SMS Gateway system to perform messaging for users.

Protocol to make connection: 1. TCP/IP, 2. Webservice/XML

# OTHER ARCHITECTURAL SOLUTIONS

## System security architecture – Information security

[Indicate solutions related to system security: VSA, login]

## Data backup and recovery architecture

[Provide solutions for backup and data recovery]

## Solutions for other special requirements

[Large data processing, large number of transactions, large number of concurrent connections]

## Solutions that comply with Data Governance standards

[Outline solutions related to compliance with Data Governance standards:

* + Data security: decentralize users to influence data, blur data, save logs of confidential data, secure data sharing methods...
  + Data quality: data quality check solution and alarm…
  + Other Data Governance standards if any]