**Software Integration Test Design Specification**

# Introduction

<This section provides an overview, purpose, intended audience and structure of the Test Design. It helps readers can understand overview and structure of documents and can refer easily to expected sections>

# Definitions and Acronyms

<This subsection should provide the definitions of all terms, acronyms and abbreviations required to properly interpret the Test Design. Well known abbreviations need not be stated.>

Example:

|  |  |  |
| --- | --- | --- |
| No | Acronyms | Definition |
|  |  |  |

# References

<This subsection should provide a complete list of all documents referenced in the Test Design. Identify each document by title, version number - if applicable - dates, and publisher>

Example, input of test design is requirement specification, SRS, testing input materials (database, setup guide, manual, existed test specification or sample data test, etc)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| No. | Reference | Version Number | Document Name/Source & Location reference | Brief Description |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

# Assumptions, Dependencies and Constraints

<List of the assumptions, dependencies and constraints that affect the development to be stated. These assumptions will affect to analysis method to define test case and test scenarios.><All constraints that need to hold true for us to be able to proceed.>

<All constraints that need to be confirmed with customer before starting test case design.>

Example:

* List all constraints between every parts of system
* Assumption about database is developed by TSDV or Customer
* Assumption about data in database is real data or dummy data
* Whole system is run correctly or some part of system is assumed correctly

# Scope

## Target module/system of IT

<This section is aimed to make clearly on what we are going to cover. Some case, since limit of time or budget, a part of system will be tested. In that case, scope need to confirm clearly with customer about limitation and risk of quality.>

<Describe which part of system need to be checked or all the system. In case all the system do not checked, PJ should clarify reason and strategy for reducing risk of un-testing parts.>

<If possible, draw scope of testing is better >

## Functional Test Items

*< List of functional requirements in scope of this test. Functional requirements are specified in SAD document.>*

|  |  |  |  |
| --- | --- | --- | --- |
| No | Functional Requirement items | Scope of IT | Remark |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

## Non-Functional Test Items

<List up all non-functional requirement which is considered to checking in IT phase to make sure that cover customer requirements such as: Performance request, memory restrictions, conservativeness, extendibility, other quality requirements, etc.>

<Example>

|  |  |  |  |
| --- | --- | --- | --- |
| ***No*** | ***Non-Functional Requirement items*** | ***Methods*** | ***Remark*** |
|  | *Heat run test* | *- Server application is not stopped - Check satisfying of trend graphs (Number of thread, number of virtual byte, private byte, and handle count).* |  |
|  | *Non- functional requirement from same customer or sample scope/type PJ* | *Gather information from same scope/type PJ in last term.* |  |
|  | *Load testing* | *This item is to check the heavy load testing of system. Main idea of this item is how system occur when multi concurrent access to system.*  *Do we need to simulate multiple concurrent access to system?* |  |
|  | *Performance test* | *Check and report processing time of the system. Is that in acceptance range?* |  |
|  | *Marginal examination (marginal check)* | *How to setup environment for this testing? Test with the same method in Loading test.  Check behavior of system when system in marginal state.* |  |
|  | *Error handling* | *Did you mention these on SRS and design?* |  |

# Testing Techniques

## Analysis

< Draw a graph/ decision table of test case writing technique based on a requirement/test scenario following by test strategy>

<Analyze an according to the chosen testing techniques>

<How to define test case for each part>

<How to define test case for non-functional requirement>

## Test Case Design

<*This section provides more detail of section 6*>

*<Design set of test cases following above testing technique. Think about all possible checkpoints for each requirement, based on developer’s view and user’s view>*

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Test case ID** | **Test objective** | **Pre-condition** | **Checkpoints** | **Test data** | **Expected Result** | **Post-condition** |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |

*< Fields in Test Cases:*

* *Test case Id and Test objective – these are the generic ones.*
* *Pre-condition: requirements that must be met before the tester can run the test case*
* *Checkpoints: All of checkpoints to be tested for each test objective. 1 test objective could be have 1 or many checkpoints.*
* *Test data: Range of value of input data following checkpoints. 1 checkpoint could be have 1 or many test data.*
* *Expected Result: If it is normal case result is what value. If it is abnormal what result and behavior of system is.*
* *Post-condition: State of system after run test case.>*