Test Plan

XXX Project Name

UAT Release - TBD

Version 1.0

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| --- |
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**Document Control**

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# Introduction

## Objective

The purpose of the Master Test Plan is to define the test strategy, scope, approach, deliverables, resources, and schedule of the different types of testing. This plan also specifies the items being tested, the major features being tested, the tasks to be performed, the personnel responsible for each task, and the risks associated with this plan.

## Target Audience

The intended audiences for this document are:

* IT Lead/Project Manager
* Technical Lead
* Quality Assurance (QA Lead)
* Business User / Business Stakeholders
* Scrum Master

## Project Background, Objectives and Overview

The Project: XXX Project Name

* **Premium Reporting:**

A standard report for each client created on a monthly basis to enable the calculation of premium payment amounts for all benefit types. The client may use this report to determine the premium amounts to pay each carrier.

* **DBI Reporting:**

All "direct bill" employees (as determined by the direct bill categories for each client) who are enrolled in a plan with Employee Cost (premium) > 0. "Direct Bill" categories will be identified by the EGDirectBillCategories Master Data Table in Data Repository.

This release includes the deployment of Premium and DBI report enhancement.

# Test Strategy

## Test Scope

### Applications / Subsystems / Functionalities Included in Testing

|  |  |  |
| --- | --- | --- |
| **#** | **Applications / Subsystems / Functionalities** | **Test Level** |
| 1 | Direct Bill - Fine tune workflow to bring down the run time | System Testing |
| 2 | Direct Bill - Category Change | System Testing |
| 3 | Premium reporting - Adjustment Display | System Testing |

Table 1: Applications / Subsystems / Functionalities included in testing

### Applications / Subsystems / Functionalities Excluded in Testing

| **#** | **Applications / Subsystems / Functionalities** |
| --- | --- |
|  | Functionalities other than what is listed in 2.1.1 |
|  |  |

Table 2: Applications / Subsystems / Functionalities excluded in testing

## Types of Testing

| **#** | **Type of Testing** | **Responsibility** | **Phase** | **Environment** |
| --- | --- | --- | --- | --- |
| 1 | Unit Testing | Development team | Development | Development |
| 2 | System Testing | QA team | Testing | QA |
| 3 | Performance Testing | QA team | Testing | QA |

Table 3: Types of testing

## Test Tools

| **#** | **Test Tool** | **Vendor** | **Version** | **Purpose** |
| --- | --- | --- | --- | --- |
| 1 | JIRA | JIRA | v7.2.3 | QA test management |
| 2 | Informatica | Informatica | 9.6.1 | To run the workflows |
| 3 | Micro strategy | Micro strategy | 9.3 | To retrieve the premium report |
|  |  |  |  |  |

Table 4: Test Tools

## Test Environments

System testing will be done in QA environment.

Note – As agreed with scrum, QA team is not required to support the post deployment verification process in both UAT and prod environments.

### Software Description

SoftwareRequirements for System Testing

* Operating System :Windows 7
* Browser : IE11
* Database Access : SQL Server 2014

### Hardware Description

| **Environment** | **Location** | **Express Server** | **Staging Database** | **Directory** | **Instance** | **Size** | **Instance** | **User IDs** | **HTTP Server** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |

Table 5: Hardware Description

| **Server Name** | ***<Server1 Name>*** | ***<Server2 Name>*** | ***<Server3 Name>*** |
| --- | --- | --- | --- |
| Model |  |  |  |
| No of CPUs |  |  |  |
| MHZ |  |  |  |
| O/S |  |  |  |
| Memory |  |  |  |
| Space Allocation |  |  |  |

Table 6: Server Details

### Access and Permissions

The System Testing Team will have:

* Access to QA database.
* Access to Informatica for running the workflow.
* Access to Micro-strategy to retrieve the premium report.

### Test Data – As per the requirement QA team will set up the test data in the QA environment.

## Testing Risks and Assumptions

### Risks

* **Test Environment**
  + - * Every step away from production environment increases the risk of the application not behaving as expected in production.
      * Testing on limited browser / platform combinations – Windows 7/1E9.
* **Resource**s
  + - * Availability, skill set, learning curve, etc.
* **Timeline**
  + - * The scope of testing changes
      * All the functionality is not deployed in the first test cycle.
      * Any build(s) are not delivered as scheduled.
      * Any build(s) must be returned due to critical issue(s)
      * Any of the planned resources are not available during the entire release phase.
      * Accesses to system and the required file servers / databases are not provided on time.
* **Test cases may not be relevant / complete if.**
  + - * Documents provided at walkthroughs are not current / complete.
      * Documents are updated without communicating.
      * Test cases are not reviewed thoroughly.
* **Testing may not be complete if**
  + - * Functionality is included without the knowledge of QA.
      * This would be a greater risk when it is in a module out of QA scope.
      * Certain features which are not in scope of testing

### Assumptions

* System Requirement Document, Use Cases and Design documents are properly documented and tracked until the final product. These documents will be used for creating test cases. SRD, Use Cases and Design documents must be completed and signed off before the test cases can be finalized.
* Walkthroughs & hand–offs to QA will be completed providing adequate time for scripting.
* Test cases will be completed, reviewed, updated if necessary and signed off before start of testing.
* Sufficient resources and time will be allocated for testing the product.
* Test environment must be accessible to the QA team before testing can begin.
* QA must have appropriate access to all the relevant systems and databases.
* Input data from all data source systems is correct.
* There will be no migrations of code / templates / software during the test cycles unless agreed to by the Test Team
* Release notes will be issued before every migration.
* Defect tracking procedure will be followed to closure.

## Sign-Off Criteria

To be released off by QA the changes going into Production as part of the release should meet sign off criteria for System Testing and Regression Testing:

* System / Regression Testing should be completed.
* All critical defects must be fixed.
* At least 95% of High priority defects must be fixed.
* Remaining 5% of High priority defects need to have a consent by the Business and Project Manager

# Unit, Module and Module Integration Testing (NA)

The purpose of this section is to define the objectives, scope, deliverables and entry and exit criteria for Unit Testing along with Module Testing and Module Integration Testing.

## 3.1 Objectives of Testing

Objective of Unit, Module and Module Integration Testing is to ensure that:

* Unit, Module and Module Integration Testing activities are planned.
* All the code related components defined in the Design Document are implemented and are working fine
* Uncover and fix the Unit, Module and Module Integration Test defects.
* Modules / components satisfy the documented performance and other non-functional requirements.

## 3.2 Scope of Testing

Unit testing is performed in Dev region by Developers for every story before being deployed into QA region for System Testing.

## Entry Criteria

The entry criteria for the Unit Testing are as follows:

* Unit, Module and Module Integration Test Plan is available.
* Unit, Module and Module Integration Cases are prepared.
* Unit, Module and Module Integration Test Data is ready.
* Initial Code review has been done by the development team.
* Design Deviation log has been provided.

## Exit Criteria

In order to complete the Unit Testing, the exit criteria are:

* Unit, Module and Module Integration Testing is conducted.
* Unit, Module and Module Integration Test Defects are closed.
* Unit, Module and Module Integration Results are available.
* All code satisfies performance and other documented non-functional requirements as stipulate.

## Test Data Preparation

As QA does not test as part of Unit/ Module testing, the test data preparation is done by Dev.

## Test Case Preparation

* Preparing test cases as per the business acceptance criteria mentioned in user stories.

# System Testing

The purpose of this section is to define the objectives, scope, deliverables and entry and exit criteria for System Testing.

* System Testing will be done in the QA environment.
* Based on the requirement, QA team will cover regression testing for all the functional features prior to QA signoff.

## Objectives of Testing

The main objective of the System Testing is to validate the system features against their functional and non-functional requirements. The System Testing should be destructive and focused on negative conditions in order to be productive in finding software defects. This section also describes in detail the features to be covered by testing and the features that will be excluded from testing.

System testing is performed in QA region.

## Testing - In Scope (Features to be tested in this release)

### 4.2.1 Functional Features to be tested:

This Release includes the following stories **to be tested by QA** –

| **#** | **Story ID** | **User Story** |
| --- | --- | --- |
| 1 | MRA 100 | Premium reporting: March Adjustment Not Displaying |
| 2 | MRA 58 | Direct Bill Category Change Not Generating DBI Trxs |
| 3 | MRA 50 | Direct Bill - Fine tune workflow to bring down the run time |
| 4 | MRA 124 | DBI - Enrollments with future coverage end date causing unnecessary adds and drops |

Table 7: Stories included in testing.

## Testing - Out of Scope

Functionalities other than what is listed in 2.1.1

## Entry Criteria

The test execution phase can begin when a new build is migrated to the test environment after Unit, Module and Module Integration has been successfully performed based on documented test conditions. The development manager should notify testers via e-mail regarding what build number is submitted for testing, which features have been implemented, and which bugs have been fixed and should be re-tested. The following conditions can be considered as entry criteria for the test execution cycle:

* Detailed Use Cases/ stories/functional specs
* Use Case/ stories/functional specs Walkthrough.
* Code Review sign off by technical team at XXX Company Name
* Release Metrics from development team
* Unit Tested Code from development team
* Unit Test Metrics from development team
* System Test Cases signed off by Business Analyst
* In the DSU prior to a new build, Development needs to confirm what functionality is contained in said build.

## Exit Criteria

In general, the longer the system is tested, the more defects can be found. However, the cost of finding defects will grow and their severity will decline. Hence, the testing cost efficiency typically declines over time. For this reason, the project team should define practical and measurable testing exit criteria that can be used by testers for making a formal decision when test execution can be stopped. The exit criteria for System Testing can be defined as follows:

* System Test has been performed and test conditions are documented.
* 100% of test cases have been executed.
* 100% of bug-fixes have been re-tested.
* 0 defects of critical severity have been found for last \* days of testing.
* 0 defects of critical and high severity are left open.

## Testing Tasks and Deliverables

| **Tasks** | **Deliverables** |
| --- | --- |
| * Define the scope, objectives, and approach to System Testing | * System Test section of this document is completed |
| * Detail the approach to System Testing * Specify required test data. * Design test case specifications | * Test scripts |
| * Setup the test environment * Migrate the system into the test environment. * Generate test data. * Setup the defect tracking system | * The system under test is up and running in the test environment. * Generated test data * The defect tracking system is ready for the test cycle |
| * Test the system and find and report defects | * Defect reports logged to the defect tracking system. * The system completely tested. * Test Execution Report |
| * Evaluate the test process effectiveness from the production (user) perspective. * Plan improvement measures for the next test cycle | * Completed Test Execution Report * Proposal for test process improvement |

Table 9: Testing Tasks and Deliverables

## Test Suspension and Resumption Criteria

* Test suspension due to installation / relocation of existing hardware (namely, moving hardware to a different site)
* Test suspension that could include a database server/ application outage or loss of database query access.
* Testing will be resumed once the suspended condition has been rectified, or a workaround has been negotiated and agreed upon by the relevant stakeholder.
* Testing will be suspended when any Blocker defect occurs, and testing will be resumed when the defect are resolved

## Test Data Preparation

QA team will prepare the IMAX file (test data file) according to the requirement specified. That will be loaded into the database.

## Test Case Preparation

Test Case preparation is done in excel file and that will be uploaded into respective story in JIRA.

## Test Results

At end of testing, a Test Execution Report is produced as a sign-off document to all the respective stockholders.

## Deviations from the Testing Procedure

NA

# System Integration Testing

As this project is based on the reports which are not dependent on each other, System Integration is not required.

## Objectives of Testing

## Testing - In Scope (Features to be tested)

## Testing - Out of Scope

## Entry Criteria

## Exit Criteria

## Testing Tasks and Deliverables

## Test Suspension and Resumption Criteria

## Test Data Preparation

## Test Case Preparation

## Test Results

## Deviations from the Testing Procedure

# Performance Testing

The purpose of this section is to define the objectives, scope, deliverables, entry and exit criteria for Performance Testing.

QA support performance testing based on the response time retrieved from the Gantt chart (Informatica).

## Objectives of Testing

The objective of Performance Testing is to demonstrate that the system meets requirements for transaction throughput and response times simultaneously. It also ensures that the system functions with acceptable response time as per the specification, while processing the required transaction volumes on a production sized database.

The primary objective of Performance Testing is to verify the response time of reports generation and workflow.

## Testing - In Scope

This Release includes the following story **to be tested by QA (Performance)** –

| **#** | **Story ID** | **User Story** |
| --- | --- | --- |
| 1 | MRA 50 | Direct Bill - Fine tune workflow to bring down the run time |

## Testing - Out of Scope

As discussed in scrum, QA team need not require supporting performance testing for different system requirements.

## Entry Criteria

The following are prerequisites for Performance Testing:

* Performance Test results from the Development phase of the project
* Performance Test Cases signed off by Business Analyst
* Performance requirements (objectives) should be agreed on beforehand so that a determination of whether the system meets those requirements can be made.
  + - * Detailed functional scenarios
      * Transaction Response Time
      * Load Profiles – Number of members and transaction volumes to be simulated.
      * Database Volume – The number of records in database tables expected in production.

## Exit Criteria

* Performance test was executed.
* Detailed Test Execution Report was presented and discussed with the stakeholder.

## Testing Tasks and Deliverables

* *See Section 4.6*

## Test Suspension and Resumption Criteria

* *See Section 4.7*

## Test Data Preparation

QA team will prepare the IMAX file (test data file) from the Massive XML file Generator tool.

## Test Case Preparation

* *See Section 4.9*

## Test Results

* *See Section 4.10*

## Deviations from the Testing Procedure

* *See Section 4.11*

# Testing Schedule, Resources and Responsibilities

Testing Resources and Responsibilities mentioned in Below Table:

| **Name** | **Responsibilities** |
| --- | --- |
| Naveen S | 1. Analysis and Estimation of Stories 2. Test Plan preparation 3. Test Data, Test Cases Preparation, 4. Test Execution and reporting bug in JIRA 5. Status Report sharing with relevant stakeholders on weekly basis 6. TESR preparation |
| Jessica Ni | 1. Analysis and Estimation of Stories 2. Test Plan preparation 3. Test Data, Test Cases Preparation, 4. Test Execution and reporting bug in JIRA 5. Status Report sharing with relevant stakeholders on weekly basis |

# Test Communication Plan

**Status Reporting:**

| **#** | **Reports** | **Responsibility** | **Frequency** |
| --- | --- | --- | --- |
| 1 | Daily Status Reporting over Scrum Calls | QA team | Daily |
| 2 | Weekly status report over mail | QA team | Weekly |
| 3 | TESR over mail/XXX Company Name wiki share path | QA team | Release |

Table 14: Test Communication Plan

# Attachments

NA