**DMND0009639**

**Configurable AIA TPS for SMS Send Out**

High Level Design Document

Version 0.2

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Table of Contents

[1 Introduction 5](#_Toc102756845)

[1.1 Purpose and Scope 5](#_Toc102756846)

[1.2 Related Documentation 5](#_Toc102756847)

[1.3 Terms and Definitions 5](#_Toc102756848)

[1.4 HLD Checklist 5](#_Toc102756849)

[2 Requirement 7](#_Toc102756850)

[2.1 Current Functionality 7](#_Toc102756851)

[2.2 Reasons for Change 7](#_Toc102756852)

[2.3 Business Impact 7](#_Toc102756853)

[2.4 Business Value 7](#_Toc102756854)

[2.5 Requirements Traceability Matrix 7](#_Toc102756855)

[3 Overall Solution 9](#_Toc102756856)

[3.1 Impacted Applications 9](#_Toc102756857)

[3.2 Assumptions, Constraints and Dependencies 9](#_Toc102756858)

[3.2.1 Assumptions 9](#_Toc102756859)

[3.2.2 Constraints 9](#_Toc102756860)

[3.2.3 Dependencies 10](#_Toc102756861)

[3.3 Architecture Diagram 10](#_Toc102756862)

[3.4 Use Cases 10](#_Toc102756863)

[3.5 High-Level Solution 12](#_Toc102756864)

[3.6 UI Changes 13](#_Toc102756865)

[3.7 Fallout/Error Handling/Retry Mechanism 13](#_Toc102756866)

[3.8 Effort Details 13](#_Toc102756867)

[3.8.1 Overall Efforts 13](#_Toc102756868)

[3.8.2 Scoping Efforts (Bucket A) 14](#_Toc102756869)

[3.8.3 DCUT (Bucket A) 14](#_Toc102756870)

[3.8.4 Breakdown of DCUT Efforts 14](#_Toc102756871)

[3.8.5 Breakdown of Testing Efforts 15](#_Toc102756872)

[3.9 Timeline 15](#_Toc102756873)

[4 Other Impacts 15](#_Toc102756874)

[4.1 Impacted Interfaces 15](#_Toc102756875)

[4.2 Hardware/Third-party Software Impact 15](#_Toc102756876)

[4.3 Impact on Performance 16](#_Toc102756877)

[4.4 Impact on Operation 16](#_Toc102756878)

[4.5 Impact on Security 16](#_Toc102756879)

[4.6 Impact on Training 16](#_Toc102756880)

[4.7 Impact on Migration 16](#_Toc102756881)

[4.8 Impact on Production (System Downtime and Data) 16](#_Toc102756882)

[5 Risks 17](#_Toc102756883)

[6 Open Issues 18](#_Toc102756884)

[7 Document Release Information 19](#_Toc102756885)

[8 Appendix 20](#_Toc102756886)

[8.1 Testing Scope 20](#_Toc102756887)

# Introduction

## Purpose and Scope

The goal of this project is to add a capability in AIA to configure the traffic sent by AIA to SMSC in order to reduce or eliminate undelivered SMS campaigns.

## Related Documentation

|  |  |  |
| --- | --- | --- |
| **Document ID** | **Document Name** | **Author** |
| DOC-001 | CRS\_DMND0009639\_Configurable AIA TPS for SMS sendout\_v1.1.xlsx | Smart |
| DOC-002 |  |  |
| DOC-003 |  |  |
| DOC-004 |  |  |

## Terms and Definitions

Following is a list of terms used in this document with which the reader should be familiar:

| Term | Definition |
| --- | --- |
| AD | Application Development |
| MS | Managed Services |
| POB | Performance Obligation |

## HLD Checklist

|  |  |
| --- | --- |
| **Items / Response** | **Response** |
| Portfolio | Smart Wireless and PLDT Home |
| Line of Business (LOB) | Wireless Prepaid and Postpaid  Home |
| Impacted Brands | All |
| Audience / End User | Prepaid and Postpaid Subscribers  Home subscribers |
| Impacted System(s) | AIA |
| Vendor(s) | N/A |
| CSOG Required? | N/A |
| CRS / PPD Frozen | No |
| Mockup’s Shared? | N/A |
| Spiels Shared? | N/A |
| Capacity Assessment | No impact |
| Transformation Impact | N/A |

# Requirement

## Current Functionality

Exceeding the threshold of total SMSs sent might result in undelivered SMS campaigns.

## Reasons for Change

Reduce or eliminate undelivered SMS campaigns.

## Requirements Traceability Matrix

Below are the use cases in the scope of Assessment of this Demand. The RTM table below indicates their coverage from solution assessment point of view.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Unique ID** | **Description** | **Proposed Solution** | **GA / RISK / CONSTRAINT and DEPENDENCIES** | **Use Case** | **Impacted System** | **Remarks** |
| REQ-001 | Capability in AIA to configure the SMSs to be sent per second. | PS-001 |  | UC-001 | AIA |  |
| REQ-002 | The number of connections in AIA to SMSC shall not exceed the configured maximum TPS per instance.  \*Note: Wireless (Prepaid and Postpaid) has a separate maximum TPS from Home brand.  For Wireless - 591 TPS  For Home – TBD TPS | PS-001 |  | UC-001 | AIA |  |
| REQ-003 | AIA shall be able to distribute traffic load evenly across different connections per instance/cluster and shall not exceed the maximum TPS.  \*For example, the maximum TPS for Wireless is 591 per instance, and supposing that there are total of 20M SMS to be sent, AIA shall follow the configuration and send 591 SMS first, then queue the remaining SMS until all of them has been successfully sent. | PS-001 |  | UC-001 | AIA |  |

# Overall Solution

## Impacted Applications

|  |  |
| --- | --- |
| **Affected Systems** | |
| AIA |  |
|  |  |
|  |  |

## Assumptions, Constraints and Dependencies

### Assumptions

|  |  |
| --- | --- |
| **Unique ID** | **Description** |
| GA-001 | Any other new changes not stated in this document upon HLD approval shall require a new demand and shall be covered in a separate HLD. |
| GA-002 | There is no new report requirement scoped in this document. |
| GA-003 | Testing scope indicated under section 8.1 shall be considered as final upon HLD approval. |
| GA-004 |  |
| GA-005 |  |
| GA-006 |  |
| GA-007 |  |

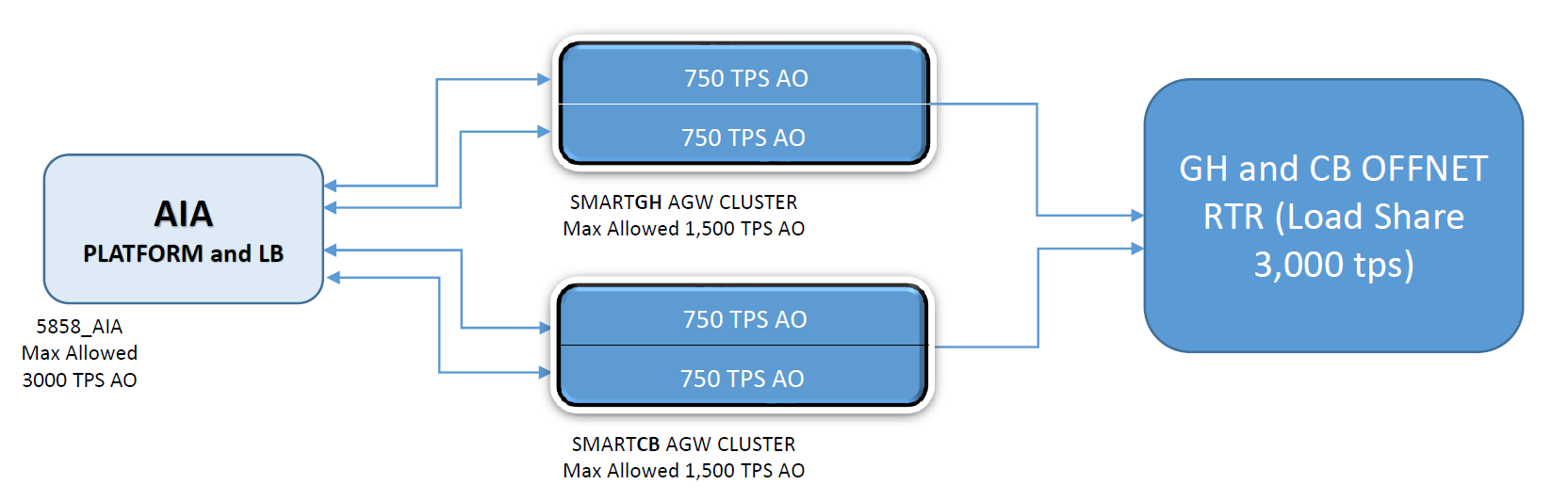
### Constraints

|  |  |
| --- | --- |
| **Unique ID** | **Description** |
| GC-001 | Prioritization of ongoing projects |
| GC-002 | Interface readiness |
| GC-003 | Force majeure situations |
| GC-004 | HLD timelines shall be provided based on the new prioritization process |
| GC-005 | Timeline shall be declared after the HLD approval |

### Dependencies

|  |  |
| --- | --- |
| **Unique ID** | **Description** |
| GD-001 |  |

## Architecture Diagram



## Use Cases

Here is the summary of use case scenarios:

|  |  |
| --- | --- |
| **UC ID** | **USE CASES (UC)** |
| UC-001 | * Configure the max number of SMSs to be sent per second |

## High-Level Solution

Here is the summary of proposed changes:

| **PS ID** | **Proposed Solution (PS)** |
| --- | --- |
| PS-001 | Changes in AIA   * Support multiple connection pools, each having its own configuration. * Define one connection pool for wireless (Prepaid and Postpaid combined) and one for home LoB. * Support configuring the max TPS per connection to the SMSC * Support configuring the number of connections that will be opened by one AIA server * Support configuring the number of servers connected to the SMSC * All connections opened by AIA are directed to one of the SMSC Instances via the Load Balancer * Total TPS is calculated by the following formula: TPS per Connection \* Number of Connections per Server \* Number of Servers   Note: Solution can’t guarantee 100% accuracy for the max TPS. Depending on the load, some deviations might occur. |

## Fallout/Error Handling/Retry Mechanism

N/A

## Effort Details

### System Work Effort

| **System** | **Work Effort** | **Man-Days** | **Remarks** |
| --- | --- | --- | --- |
| AIA | * Support and enable setting for max TPS (per connection to the SMSC) * Support multiple connection pools | 22 |  |
| TESTING | SIT: 6  IAT: 3  BUAT: 3  PPT Support: 1 | 13 |  |

### Total DCUT and Testing Effort

|  |  |  |
| --- | --- | --- |
| **Project Execution Items** | **Actual Effort** | **Remarks** |
| Development and Unit Testing (DCUT) | 22 |  |
| Total Testing Effort | 13 |  |
| **Total Effort** | **35** |  |

### Overall Efforts

|  |  |  |
| --- | --- | --- |
| **Project Execution Items** | **Actual Effort** | **REMARKS** |
| Development and Unit Testing (DCUT) | 22 |  |
| Scoping, Impact Assessment and High Level Design | 7 |  |
| System Acceptance Testing (SAT) | 6 |  |
| SAT Application Support | 2 |  |
| Integration Acceptance Testing (IAT) | 3 |  |
| IAT Application Support | 2 |  |
| User Acceptance Testing (UAT) - data preparation | 2 |  |
| UAT- Operational support | 3 |  |
| UAT - Application Support | 2 |  |
| Quality and Release Management | 2 |  |
| Project Management | 3 |  |
| Post Production Test (PPT) | 1 |  |
| PPT Application Support (\*) | 1 |  |
| Production Stabilization | 1 |  |
| Ongoing Maintenance | 1 |  |
| Other Effort (\*) | 0 |  |
| CSOG Governance | 0 |  |
| CSOG Execution | 0 |  |
| **Total Effort** | **58** |  |

## Timeline

Timeline shall be provided upon HLD approval.

# Other Impacts

## Impacted Interfaces

Not applicable

## Hardware/Third-party Software Impact

Not applicable

## Impact on Performance

Not applicable

## Impact on Operation

Requires DevOps monitoring

## Impact on Security

Not applicable

## Impact on Training

Not applicable

## Impact on Migration

Not applicable

## Impact on Production (System Downtime and Data)

Not applicable

# Risks

| Item | Risk | Impact Severity | Mitigation / Solution | Owner | Status | Comments |
| --- | --- | --- | --- | --- | --- | --- |
| 1 | Since last 2 weeks, 6 complex prepaid campaigns being launched daily clubbed in one DCS (on top of home and postpaid). So DCS takes ~10-12 hours to complete. Start experience processing for 50+ million target population and SMS sending to the required population(~10M) spills over to next day. With lowering of TPS further, SMS of higher numbers have a risk of spilling over to the third day depending on TPS. | Medium | Increase SMSC capacity and not lower AIA TPS | SMS | In Progress |  |
|  |  |  |  |  |  |  |

# Open Issues

| Open  Item | Impact | Type of Open Item | Owner | Status | Due Date | Comments |
| --- | --- | --- | --- | --- | --- | --- |
| 0I-001 | HIGH | Pending USSD Menue | Smart | Pending |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |

# Document Release Information

Every change made to the document following the initial delivery MUST be shown in detail in this table

| SW Ver. | Editor/Author | Application | Edit Date | Section / Changes | Approving Manager | Version |
| --- | --- | --- | --- | --- | --- | --- |
| V 1.0 | Humprey Ramirez |  | 11/17/2022 | Initial draft |  | V 1.0 |
|  |  |  |  |  |  |  |
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# Appendix

## Testing Scope