Solution Acceptance -CEIR

|  |  |
| --- | --- |
| Reference: | CEIR Solution – CP XXXXX |
| Product: | CEIR Solution |
| Product Release: | XXX |
| CP: | XXXXXX |
| Document Version: | XXXX |
| Audience: | DMC Ltd. |
| Abstract: | This document defines the Solution Acceptance Procedure for CEIR solution deliverables |
|  | |

NON-PRINTING REMINDER: To configure book:

File -> Properties -> Summary -> Edit the Title -> OK

File -> Properties -> Custom -> Edit Audience, Product, Reference, Release, Version -> OK

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# Introduction

As a part of the CP XXXXX, Sterlite has entered into an agreement with DMC to deploy a technical solution for Central Equipment Identify registration (CEIR) to cover all SIM based devices in Cambodia.

In order for DMC to be able to achieve its business objective, Sterlite has delivered a turnkey solution, with a customized software developed and associated hardware, hereafter referred to as the CEIR solution suite

The overall solution is a turnkey solution and involves the following deliverables.

1. Infrastructure planning
2. Hardware, software delivery and installation
3. Software development and customization
4. Support and Maintenance
5. Operational procedures
6. CEIR Solution Reports

All the relevant details related to the above deliverables are described in detail in the next sections.

Sterlite is responsible for the overall deployment of the infrastructure and hardware, and is also responsible for the development of the appropriate software and customization of their CEIR solution to meet the objective defined in the CP XXXX and SRS.

After the successful completion of all the related deliverables, DMC hereby is requested to accept the solution implemented for CEIR. This is hereby referred to as “Solution Acceptance”.

This Solution Acceptance is restricted to the CP XXXXXX, also referred to as “CEIR Solution”.

# Infrastructure planning

As a part of the turnkey solution, Sterlite has the end-to-end responsibility starting from planning the infrastructure to the installation followed by joint acknowledgement with DMC. The various aspects involved in the Infrastructure planning are summarized below.

## Infrastructure planning procedure

The infrastructure planning procedure contains the room layout design for the data center. It also provides details of the hardware and the configuration for the same. The infrastructure planning procedure has details of labeling the cables that are used to interconnect the different equipment.

The hard-copy of the document listed below is in the folder Volume 1.

|  |  |  |  |
| --- | --- | --- | --- |
| **No.** | **Documents** | **Document**  **version** | **Date of receipt** |
| 1 | Infrastructure planning procedure |  |  |

## Infrastructure setup acceptance

This section lists the acceptance of the infrastructure setup.

The hard-copy of the document listed below is in the folder Volume 1.

|  |  |  |  |
| --- | --- | --- | --- |
| **No.** | **Documents** | **Document**  **version** | **Date of signature** |
| 1 | Infrastructure setup acceptance |  |  |

This document contains the following

1. DMC Server room layout (tile diagram)
2. DMC racking diagram
3. LAN and SAN cabling
4. Labeling document
5. Etc.xxxxx

# Hardware, software delivery and installation

## Hardware (“HW”) delivery

This section describes the documents that are needed for the HW to be shipped and customs cleared, as defined in the shipping procedure.

The hard-copy of the documents listed below is in the folder Volume 2.

|  |  |  |  |
| --- | --- | --- | --- |
| **No.** | **Documents** | **Document version** | **Date of receipt** |
| 1 | Shipping procedure |  |  |
| 2 | Master list |  |  |
| 3 | Shipping invoice and packing list |  |  |
| 4 | Bill of lading |  |  |
| 5 | Marine insurance certificate |  |  |
| 6 | Inland insurance |  |  |

The HW acknowledgement of receipt is a document which is to be signed off by DMC to acknowledge that all the relevant HW equipment has been delivered in accordance with the signed CP and the master list.

The hard-copy of the document listed below is in the folder Volume 2.

|  |  |  |  |
| --- | --- | --- | --- |
| **No.** | **Documents** | **Document version** | **Date of signature** |
| 1 | Acknowledgment of receipt for hardware |  |  |

## Software (“SW”) delivery

As a part of the CEIR Solution the list of software that has been delivered and installed in accordance with the signed CP and the master list is listed in the document below.

The hard-copy of the documents listed below is in the folder Volume 2.

|  |  |  |
| --- | --- | --- |
| **No.** | **Documents** | **Date of signature** |
| 1 | Acknowledgement of receipt for Software |  |
| 2 | Status of software |  |

## Hardware (“HW”) installation and acceptance test procedure

* + 1. **Installation procedures**

Receipt of the HW is followed by the physical installation of the HW. The procedures listed in the table below give the detailed steps to be followed for the installation of the HW.

The hard-copy of the document listed below is in the folder Volume 3.

|  |  |  |  |
| --- | --- | --- | --- |
| **No.** | **Documents** | **Document version** | **Date of receipt** |
| 1 | HP hardware installation document |  |  |
| 2 | Hitachi Harware installation document |  |  |
| 3 | XXX installation manual |  |  |

* + 1. **Acceptance test procedures**

This section lists the acceptance test procedure for the HW.

The hard-copy of the documents listed below is in the folder Volume 4.

|  |  |  |  |
| --- | --- | --- | --- |
| **No.** | **Documents** | **Document version** | **Date of receipt** |
| 1 | HP hardware user acceptance test (UAT) procedure |  |  |
| 2 | Hitachi user acceptance test (UAT) procedure |  |  |
| 3 | XXXX |  |  |
| 4 | XXX |  |  |

* + 1. **Hardware acceptance results**

The results of the acceptance test procedure as defined in section 3.3.2 are documented below.

The hard-copy of the documents listed below is in the folder Volume 4.

|  |  |  |  |
| --- | --- | --- | --- |
| **No.** | **Documents** | **Document version** | **Date of signature** |
| 1 | HP hardware user acceptance test (UAT) results |  |  |
| 2 | Hitachi switches user acceptance test (UAT) results |  |  |
| 3 | XXXX |  |  |
| 4 | XXXX |  |  |

## Hardware manuals

As a part of the solution acceptance the relevant HW user manuals have been delivered. These documents will help DMC operations team to carry out preventive maintenance of the HW. The DMC operations team may also use these documents to support them for troubleshooting in case of any issues.

The hard-copy of the documents listed below is in the folder Volume 5.

|  |  |  |  |
| --- | --- | --- | --- |
| **No.** | **Documents** | **Document Version** | **Date of receipt** |
| 1 | XXXX technical note |  |  |
| 2 | XXX operations manual |  |  |
| 3 | HP Manuals |  |  |
| 4 | Hitachi Manuals |  |  |
| 5 | XXXX |  |  |
| 6 | XXXX |  |  |

# Software development for Stake holders

Operator specific software and other stakeholders like xxxxxx is developed for the technical platform. This software is refined over a period of time to enable DMC to generate the CEIR Reports to the stakeholders in a regular, timely and accurate manner. This software solution comprises of 2 major parts

* + Sterlite proprietary product xxxxx
  + Software development for specific operators.
  + Software development for other stakeholders xxxx

## Sterlite software solution

* The proprietary software consists of the following modules:
  + Collector: The function of the collector is to collect the CDR’s from the operators.
  + Mediation: The Mediation is used to translate the raw data from the operator into a standard format. The input files can be in any format, binary, ASCII, ASN etc.
  + XXXXX
  + XXXXX
* Business Intelligence tool (xxxxx): Software that is used by DMC to prepare the CEIR reports.

This section lists the documents that describe in detail the operation of the Sterlite proprietary middleware product and the reporting software (xxxx). There are standard product guides that are delivered as a part of the deliverables by Sterlite. This will be used by DMC as reference documents.

The hard-copy of the document (Item No.1) listed below is in the folder Volume 6.

The hard-copy of the document (Item No.2) listed below is in the folder Volume 7.

The hard-copy of the document (Item No.3) listed below is in the folder Volume 8.

|  |  |  |  |
| --- | --- | --- | --- |
| **No.** | **Documents** | **Document version** | **Date of Receipt** |
| 1 | Xxxx setup & maintenance guide |  |  |
| 2 | User manual for mediation software |  |  |
| 3 | User manual for operator specific and reporting software’s |  |  |

## Software customisation for specific operators and other stakeholders

The operators can provide the data in any format, ASCII, binary, pdf, etc. The proprietary software is enhanced with additional software development needed to report every operator, based on the data received from them. This software enhancement includes software changes and customizations in all the modules that are listed above (Collector, Mediation, xxxxxx). Based on the data received from the operators, software configuration changes need to be performed in the Mediation module xxxx, so that all the relevant use cases of CEIR of the operators are captured. Similarly data collection from other stakeholders (like GSMA, customs, xxxxxxxxetc) is performed to conduct a accurate and reliable automated software analysis to generate the necessary reports of CEIR solution. Some key features of the CEIR solution solution delivery are as following

* + Operator data sources developed (count) for the CEIR solution.
  + There are XXX (count) reports that are to be used to monitor the system.
  + The software is able to handle up to xxxx (count) records per day.
  + Reporting software to help in report generation.
    1. **Software development and customization for operators and other stakeholders**

Using the proprietary Sterlite product, a customized software solution is developed and is dependent on the data sources identified at the operator level. As a part of the software delivery, Sterlite follows a standard development process.

For every operator the software development process consists of the following 6 steps. This will ensure that the overall solution developed is consistent and will lead to accurate reports being generated.

* Technical questionnaire: This is the entry point for the operator specific and other stakeholder’s software development. This questionnaire is sent to every operator to collect the essential information and data samples about the operator. Xxxx list the other stakeholders names and how data is collectedxxxxx.
* Specification documents name xxxx: This specifies the software customization needed to process the operator data sources, interfaces development for other stakeholders like xxxxxx to capture the SIM based devices information in Cambodia.
* Xxxx other Specification documents if any xxx: This document contains the information for xxxxstakeholdersxxxx. The document defines the development rules for the software solution and is used as a basis for Sterlite to develop the software solution for the CEIR solution.
* Software development: The operator specific software and other stakeholders specific software is developed based on the xxxxx specifications documents.
* Software Test in Lab: A comprehensive test plan is prepared to validate the functionality of the software developed. These test cases are jointly executed between Sterlite and DMC. Every successful test case is validated and signed off by Sterlite and DMC.
* Software test in production system: Sterlite and DMC will validate xxxx months data processed in the lab and production system to ensure that the migration from the Lab to production system was performed successfully.

Once the software is in production system the relevant reports are produced as defined in the scope of CEIR solution delivery.

* + - 1. **Operator specific technical documents (operator name)**

All the deliverables for the software solution for the operator XXX are listed below. This will ensure that the operator xxx solution is working efficiently and SIM based devices information are generated accurately.

The hard-copy of the documents listed below is in the folder Volume 9.

|  |  |  |  |
| --- | --- | --- | --- |
| **No.** | **Documents** | **Document version** | **Date of receipt** |
| 1 | Technical questionnaire |  |  |
| 2 | XXXX |  |  |
| 3 | Technical specification documents |  |  |
| 4 | Other document xxxxx |  |  |
| 5 | Software test plan in lab |  |  |
| 6 | Software test plan in production |  |  |

* + - 1. **Operator specific technical documents (Operator name)**

All the deliverables for the software solution for the operator XXX are listed below. This will ensure that the operator xxx solution is working efficiently and SIM based devices information are generated accurately.

The hard-copy of the documents listed below is in the folder Volume 10.

|  |  |  |  |
| --- | --- | --- | --- |
| **No.** | **Documents** | **Document version** | **Date of receipt** |
| 1 | Technical questionnaire |  |  |
| 2 | XXXX |  |  |
| 3 | Technical specification documents |  |  |
| 4 | Other document xxxxx |  |  |
| 5 | Software test plan in lab |  |  |
| 6 | Software test plan in production |  |  |

* + - 1. **GSMA specific technical documents**

All the deliverables for the software solution for GSMA interface are listed below. This will ensure that the GSMA information collection is working efficiently and relevant SIM based devices information is captured/validated against other stakeholders information to generate timely, accurate and reliable SIM based devices reports for Cambodia.

The hard-copy of the documents listed below is in the folder Volume 11.

|  |  |  |  |
| --- | --- | --- | --- |
| **No.** | **Documents** | **Document version** | **Date of receipt** |
| 1 | GSMA documents |  |  |
| 2 | Technical specification documents |  |  |
| 3 | Other documents xxxxx |  |  |
| 4 | Configuration specification for Telecom Cambodia |  |  |
| 5 | Software test plan in lab |  |  |
| 6 | Software test plan in production |  |  |

**Note: Like GSMA, describe for all other stakeholders like customs, importers, TRC, MPTC etc.**

# Support and Maintenance

Once the software has been deployed and the project closure is achieved, the system moves in to the support phase. The scope and the details of the support and Maintenance are detailed in the documents listed below.

The hard-copy of the documents listed below is in the folder Volume 12.

|  |  |  |  |
| --- | --- | --- | --- |
| **No.** | **Documents** | **Document version** | **Date of receipt** |
| 1 | Support & maintenance services scope |  |  |
| 2 | Support & maintenance service description - operational manual |  |  |
| 3 | Service description – hardware repair and replacement |  |  |
| 4 | Monthly/Quarterly statistics reports |  |  |
| 5 | DMC customer care report |  |  |

# Operational procedures

A set of important documents are shared with DMC and will describe the methodology of the software development and usage of the software and processes.

These documents are briefly described below.

* System security: Describes the various steps to be taken to ensure the DMC production system is secure from external attacks.
* Development process: In order for Sterlite to develop the overall solution for every operator and other stakeholders, Sterlite follows a standard development process. Adherence to this process ensures that the solution developed has checks and balances to ensure a bug free software.
* XXX procedure: briefly describer the procedure.
* cleanup procedure: There are times when there are some changes that are made at the operator side or other stakeholders side. During this time there are expected discrepancies. This document details the steps to fix the issues.
* Backup and restore procedure: Backups are needed to ensure that we are able to recover the data in case of any emergencies. This is needed to ensure that there is no loss of data.
* Production lab synch process: This document describes the steps to be followed to ensure that the Lab and the production server are in sync.
* Reporting guideline: Used by DMC to be able to prepare the CEIR reports regularly and efficiently.
* Reconciliation procedure: In order to ensure that the data that is shared by the stakeholders is complete, reconciliation procedure is used. In case of any inconsistencies DMC will be able to find and highlight the same. This also ensures that the reports submitted by DMC are complete and accurate.
* Audit reprocessing: There could also be a need for DMC to be able to re-generate the report for audit purposes. The detailed steps for reprocessing the historical data are a part of this document.
* Operational reports: Describes the usage of the reports that are to be used by DMC to check for data completeness and errors.

The hard-copy of the documents listed below is in the folder Volume 13.

|  |  |  |  |
| --- | --- | --- | --- |
| **No.** | **Documents** | **Document version** | **Date of receipt** |
| 1 | CEIR system security |  |  |
| 2 | Development process |  |  |
| 3 | XXXX procedure |  |  |
| 4 | XXX cleanup procedure |  |  |
| 5 | Backup and restore procedure |  |  |
| 6 | Production lab synch process |  |  |
| 7 | Reporting guideline for CEIR reports generation |  |  |
| 8 | Reconciliation procedure for mobile & fixed operators |  |  |
| 9 | Audit reprocessing |  |  |
| 10 | Operational reports |  |  |

# CEIR Solution Reports

The final step of the CEIR project is the delivery of the CEIR Reports for all SIM based devices in Cambodia, as part of the CP XXXX.

The reporting template encompasses xxxxx (count) main categories of reports: The report provides qualitative and quantitative insights into the SIM based device market data in Cambodia, which includes Active devices information, whitelisted devices information, blacklisted devices information, grey listed devices information, stolen devices information etc xxxxxxx elaborate the main report typesxxxxx .

The hard-copy of the CEIR solution reports is in the folder Volume 14.

|  |  |  |  |
| --- | --- | --- | --- |
| **No.** | **Documents** | **Document version** | **Date of release** |
| 1 | CEIR Reports |  |  |

# Solution Acceptance signoff

This is to acknowledge that deliverables highlighted in this document is in accordance with DMC’s expectations. All the deliverables that are mentioned in this document have been received and accepted by DMC.

|  |  |
| --- | --- |
| Customer Name | DMC Ltd. |
| Project Number | CP Numbers |
| Project Description | Sterlite CEIR Solution |

|  |  |  |
| --- | --- | --- |
| **Sterlite Project Manager** | Name: | **Shyam Sunder Garg** |
| Signature: |  |
| Date: |  |
| **DMC Project Manager** | Name: | **Rajneesh Katoch** |
| Signature: |  |
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| **DMC R&D Manager** | Name: | **Pradeep Sharma** |
|  | Signature: |  |
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|  | Signature: |  |
|  | Date: |  |
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|  | Signature: |  |
|  | Date: |  |
| **DMC Deputy General Manager** | Name: | **Dina Yoeurn** |
|  | Signature: |  |
|  | Date: |  |
| **DMC General Manager** | Name: | **Biloliddin Nuriddinov** |
|  | Signature: |  |
|  | Date: |  |

# Annex 1

**Solution Acceptance Handbook**

|  |  |
| --- | --- |
| Volume No. | Title |
| 01 | Infrastructure Planning |
| 02 | Hardware and Software Delivery |
| 03 | Hardware Installation Procedures |
| 04 | Hardware Acceptance Test Procedures and Results |
| 05 | Hardware Manuals |
| 06.1 | Setup and Maintenance Guide |
| 06.2 | XXXX document |
| 07 | User Manual Mediation |
| 08 | User Manual GSMA |
| 09 | Operator Specific Technical Documents (Operator Name) |
| 10 | Operator Specific Technical Documents (Operator Name) |
| 11 | User Manual Customs (add others like TRC, MPTC importers, wholesalers etc. |
| 12 | Support and Maintenance |
| 13 | Operational Procedures |
| 14 | CEIR Solutions Reports |

End of Document