**Application Documentation**

**for**

**MCA**

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| --- | --- |
| **Version :** | 2.2 |
| **Prepared By:** | Shailendra Chaturvedi |
| **Reviewed By:** | Abhisehk Kumar |

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| **Version:** | | 2.2 | | |
| **Document Creation Date:** | | 21st Aug 2017 | | |
| **Classification** | |  | | |
| **Modification History** | | | | |
| **Sr. No** | **Description of Change** | | **Date of Change** | **Version No.** |
| 1 | Initial Draft | | 30th May 2013 | 1.0 |
| 2 | For Review | | 18th August 2014 | 2.0 |
| 3 | System Owner name changed | | 02nd May 2015 | 2.1 |
| 4 | Review | | 21st Aug 2017 | 2.2 |

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1. **INTRODUCTION**

Business User – Underwriters, COPS, Vendors

System Owner 1 – Shailendra Chaturvedi

System Owner 2 – Abhishek KUmar

Vertical Head – Neeraj Sethi

Functional Head – V V Balaji

1. **SYSTEM OVERVIEW**

* MCA system consists of 3 broad modules.

1. Branch App Form (BAF)

2. Underwriting

3. PDCS

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| **BAF**  **Business Functionality:** This is a Data entry application, used for:   1. Input all the details about the new applications for all products. 2. Getting decisions for every application 3. ATS creation on Life Asia directly 4. It will be used by all the branches all across India.   **Users:**  Branch Users  COPS  **Upstream Systems:**  Image server (Omnidocs)  **Downstream Systems:**  LA (Life Asia) – integrated using MSMQ and BO like  AGENQI,AGENQO,AGMAGMI,AGMAGMO,APPENQI,APPENQO,BRECLTI,BRECLTO,CLNSRHI,CLNSRHO,CLNTENQI,CLNTENQO,EUPCHGHI,EUPCHGHO,EUPCHGJI,EUPCHGJO,EUPCRTI,EUPCRTO,EUPMEDI,EUPMEDO,LDRHDR,SESSIONI  Integrated for ATS, Client, and Contract Creation.  BRE (Blaze Rule Engine) : This system is used to get the decisions for the applications |

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| **UW**  **Business Functionality:** This is workflow based application which is used by underwriters   * Pulling eligible cases from BAF to UW. * Assigning the cases to various underwriters based on roles. * Opening Branch App form to check the whole application. * Checking decisions and giving UW decision. * Checking eligibility for Medical Requirements.   **Users:**  Underwriting Team (IUW, CUW)  **Upstream Systems:**  Omnidocs, Honeybee, Branch App form, SSU |

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| **PDCS**  **Business Functionality:** This is a Data entry application, used for double checking the data put for applications through the BAF entry.   1. Input all details about the customer in the KYC module. 2. Input all details related to application in the D1 module. 3. Double check all the fields in the QC module. 4. Outputs file generation once QC is successfully completed.   **Users:**  COPS Team  **Upstream Systems:**  Image server (Omnidocs), BAF & Honeybee  **Downstream Systems:**  Control M |

1. **SYSTEM INVENOTRY**

|  |  |  |  |
| --- | --- | --- | --- |
| **Area** | **Production** | **Test Env** | **Development** |
| **Software** | | | |
| Operating System of App/ Web/ DB Servers. | Windows 2008 R2 Server (10.50.46.211, 10.50.52.33) | Windows 2008 R2 Server (10.24.57.49) | Windows 2008 R2 Server (10.24.94.210) |
| Application/ Web Server | IIS 7.0 | IIS 7.0 | IIS 7.0 |
| DB Server Name  & Version | 10.50.46.104(NBAPP)  Oracle 10.2.0.1 | 10.24.149.43  &  Oracle 10.2.0.1 | 10.24.149.43  &  Oracle 10.2.0.1 |
| Cordys DB Server and Version | 10.50.46.104(NBREP)  Oracle 11.2.0.1 | 10.24.57.248  &  Oracle 11.2.0.1 | 10.24.57.248  &  Oracle 11.2.0.1 |
| GUI | Cordys XFORMS developed using CORDYS and JS | Cordys XFORMS developed using CORDYS and JS | Cordys XFORMS developed using CORDYS and JS |
| Framework Name and Version | .Net Framework 2.0 | .Net Framework 2.0 | .Net Framework 2.0 |
| Scripting Languages | JavaScript | JavaScript | JavaScript |
| Browser compatibility and Version | IE 8, Mozilla, Chrome | IE 8, Mozilla, Chrome | IE 8, Mozilla, Chrome |
| **SDLC Tools** | | | |
| Integrated Development Environment and Version (VS.Net, Eclipse, etc.,) | No tool installed on the server. Development done on Eclipse installed in local machines | No tool installed on the server. Development done on Eclipse installed in local machines | No tool installed on the server. Development done on Eclipse installed in local machines |
| Tool to measure application performance (WAPT, Profiler, etc.,) | No | No | No |
| Configuration Management Tools and Version (VSS, TFS, SVN) | No | No | No |
| Report Generation Tool if any (Crystal report, JASPER, etc.,) | BIRT reports | BIRT reports | BIRT reports |
| Any Logging / Caching APIs and version? (Log4Net, Log4J, EntLib, etc.,) | No | No | No |
| DB Development Tools (PL SQL Developer, TOAD, etc.,) | SQL Developer | SQL Developer | SQL Developer |
| Any other tools and its purpose? | Fiddler, Jdecompiler, SOAP UI Tool but not installed on the server.  Notepad ++ installed | Fiddler, Jdecompiler, SOAP UI Tool but not installed on the server.  Notepad ++ installed | Fiddler, Jdecompiler,SOAP UI Tool but not installed on the server  Notepad ++ installed |

# Hardware Environment

|  |  |  |  |
| --- | --- | --- | --- |
| **Area** | **Production** | **UAT** | **Development** |
| **Application Server** | | | |
| Host Name and IP address | 10.50.46.211,10.50.52.33 | 10.24.57.49 | 10.24.94.210 |
| Hard Disk Capacity | 300GB,260GB | 90GB | 100GB |
| RAM Capacity | 32GB,32GB | 12GB | 16GB |
| Processor and speed | 8 Processors (1.86GHz) | 2 Processors (1.86GHz) | 2 Processors (1.86GHz) |
| Any virtual servers used? | NA | NA | NA |
| Backup and restore mechanism | 10.50.52.33 is the secondary server |  |  |
| **Web Server** |  |  |  |
| Host Name and IP address | IIS (10.50.46.211,10.50.52.33) | IIS(10.24.57.49) | IIS (10.24.94.210) |
| Hard Disk Capacity | Same as Above | Same as Above | Same as Above |
| RAM Capacity | Same as Above | Same as Above | Same as Above |
| Processor and speed | Same as Above | Same as Above | Same as Above |
| Backup and restore mechanism | No Backup for Web server |  |  |
| **Database Server** |  |  |  |
| Host Name and IP address | 10.50.46.104 | 10.24.149.43 | 10.24.57.248 |
| Hard Disk Capacity | 500GB | 80GB | 160GB |
| RAM Capacity | 32GB | 2GB | 8 |
| Processor and speed | 8\*2280MHz | 1 Core | 4 Core |
| Any virtual servers used? | NA | NA | NA |
| Backup and restore mechanism | Hot Backup:-RMAN\_NBAPP-BIWEEKLY, RMAN\_NBREP-BIWEEKLY. Differential Backup:-RMAN\_ARCHIVE\_IPRU1 |  |  |

# Application Inventory Summary

|  |  |
| --- | --- |
| List of DB Schemas | NBAPP |
| Number of DB Tables | > 150 database tables  Master Tables:  Transaction Tables:  Reporting Tables: |
| Number of Screens | >50 |
| List of Reports |  |
| Schema Size | 1.5GB |
| Number of External interfaces | Interfaces with Life Asia, BRE, Omindocs, SSU, Honeybee.Control M |
| Number of Internal interfaces |  |
| List of Config / Property files  (.config/ .xml) | The folder with the cordys instance name (Production) has all the configuration and data files of the application |
| Number of Stored Procedures | 0 |
| Number of User Defined classes | 117 |
| Number of Triggers | 24 |
| Number of Package / Package Bodies ( applicable in Oracle only) | 0 |
| List of Views | 0 |

|  |  |
| --- | --- |
| List of DB Schemas | NBREP |
| Number of DB Tables | > 150 database tables  Master Tables  Transaction Tables |
| Number of Screens | NA |
| List of Reports | NA |
| Number of Batch jobs | NA |
| Schema Size | 70GB |
| Number of External interfaces | CORDYS INTERNAL DB. Only interfaces with IIS for handling requests. |
| Number of Internal interfaces | None |
| List of Config / Property files  (.config/ .xml) | NA |
| Number of Stored Procedures | 8 approx |
| Number of User Defined Functions | 0 |
| Number of Triggers | 10 |
| Number of Package / Package Bodies ( applicable in Oracle only) | 0 |
| List of Views | 0 |

1. **OPERATIONAL ACTIVITIES OR BATCH JOBS**

MCA contains various batch jobs which run after specific intervals of time.

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| --- | --- | --- |
| **Name of the Schedule** | **Scheduled Time** | **Purpose of the Schedule** |
| BAFScheduler | Every 10 minutes | To bring back applications which are opened and left by a user. This scheduler picks all cases which are opened by vendor and not completed within a time span of 45 minutes. |
| RejectClosure | Every 15 minutes | When a case is rejected in BAF, the case moves to Reject list of BAF. From here, when a new Image is uploaded in honey bee, it has to be brought back into the BAF work list. This scheduler takes care of polling Honey Bee’s database for new images. |
| ResetStatusofIdleCaes | Every 30 minutes | To convert the cases which has been opened but not completed within 20 min. Such cases are reverted to previous stage in PDCS. |
| PDCSOutputData | Every 6 minutes | Prepare cases for Output generation post QC completion. |
| IUWOnlineCasesscheduler | Every 30 mins | This scheduler is used to pull eligible cases into IUW pool from BAF. |
| IUWStatusChangeForUnprocessedCases | Every 30 mins | If any case is opened and left unprocessed by IUW user, the case will be moved back into common pool by this scheduler. This will not be case with combo applications. In case of combo applications, the case will be moved back to the user’s personal task. |
| PdcsRejectionFlowNew | Every 3 hrs | To re-inward the Rejected casesin KYC\_D1 pool when new images come in Honyeebee after the same are rejected. |
| PDCSQCEntry | Every 5 mins | Make BAF completed and KYC\_D1c completed cases available in QC pool. |
| CUW\_Offline\_Cases\_Scheduler | Every 30 mins | Responsible to bring Offline cases into CP pool. |
| CUW\_Fresh\_AMR\_Cases\_Allocation\_Scheduler | Every 10 mins | Responsible for allocating Fresh and AMR cases from CUW/AMR common pool to CUW users. |
| CUW\_MARS\_Cases\_Scheduler | Every 30 mins | Responsible to pull RM cases from MARS to CP Pool for underwriting |
| ReadATSPDCSSchedule | Every 30 mins | Responsible for bringing the cases into BAF work list. |
| IUWAMROnlineCasesBPMScheduler | Every 30 mins | For the online cases which are with AMR\_PENDING status, this scheduler will keep checking in Honey Bee if any new document is received. If a new document is received, the case is moved back to the respective pool from where it was made into AMR\_PENDING |
| UWPendingCasesForOTC | Every 10 mins | For all online applications in-warded in MCA, check if OCR was successful for all the mandatory documents and push to OTC/ Vendor pool. |
| CUW\_AMR\_BPM\_Scheduler | Every 30 mins | For the offline cases which are with AMR\_PENDING, this scheduler will keep checking in Honey Bee if any new document is received. If a new document is received, the case is moved back to the respective pool from where it was made into AMR\_PENDING |
| MakeUserInactiveafter60Days | Every day 9 AM | Makes users inactive if the user has not logged in for at least 60 days. |
| DigitalPaymentFlagUpdate | Every 10 mins | Check if payment has been done for the sell online applications pending payment receipt. |
| SUW\_SpaarcDBScheduler | Every day 8:30 AM | Responsible to bring cases from SPAARC database into MCA for service underwriting. |
| ScheduleSUWPool | Every 10 mins | Assign servicing cases to underwriters from SUW common pool. |
| DigitalBOLPaymentSchedule | Every 10 mins | Check if payment has been done for the buy online applications pending payment receipt. |
| Make60DaysCasesInactiveScheduler | Every day 9 AM | If payment is not done for a case for more than 60 days, this scheduler marks such cases as dummy. |
| SUW\_Reassignment\_Schedule | Every day 9 AM | Responsible to reassign SUW cases to underwriters based on SPAARC reassignment |
| SCB WIP Cases Revert Schedule | Every 10 mins | For SCB cases which are opened by the users and left without providing a decision, this scheduler moves such cases back to pending queue. |
| Cntrl M PASA Sync | Everyday 4 PM, 8 PM, 12 AM | Responsible for bringing PASA cases into the system. |
| PasaUWAllocationSchedule | Everyday 5 PM, 9 PM, 1 AM | Responsible for allocating PASA cases to underwriters. |
| DigitalMergerPaymentScheduler | Every 10 mins | Check if payment has been done for the buy online and sell online applications pending payment receipt. |
| GetUWPendingFailedCases | Every 10 mins | For all online applications in-warded in MCA, check if OCR was successful for all the mandatory documents and push to OTC/ Vendor pool where OCR had previously failed for at least one document previously. |
| SCB Pending Cases Insert Schedule | Every 10 mins | Responsible for bringing SCB cases into MAS Pending queue. |
| SCB Add Requirements Doc update Schedule | Every 30 mins | If an SCB Cases is marked as additional requirement, this schedule will mark the case as additional requirements received. |
| hindSightUpdateSchedule | Everyday 8:30 AM | Responsible for marking IUW cases for hind sighting process. |
| Close\_Discp\_Prod | Every 30 mins | Responsible for re hitting all failed discrepancy closure cases |
| Add\_DiscrepencyScheduler | Every 30 mins | Responsible for re hitting all failed discrepancy addition cases |
| AutoDiscrepancyClosure | Every 1 hour | Reads status of OCR in Honey bee and closes the discrepancies in Life Asia. This helps the process of OTC as well. |

* + - * Support Activities and Resource Inventory:

The support team works in close coordination with the development team. Support Team uses documents to manage their activities. As the project is still nascent, the processes are not perfectly in place.

1. Call Tracker
2. Monitoring Report
3. Shift report
4. Commonly faced issues and their resolutions
5. Formats and steps of regular recon activities.
   * + - Important contacts from Interfacing teams and application support team

Support team is a 2-level support structure.

L2:

1. Rohit Mathur
2. Abhishek Singh
3. Jaymala

L1:

1. Bablu
2. Ashwini
3. Parmanand

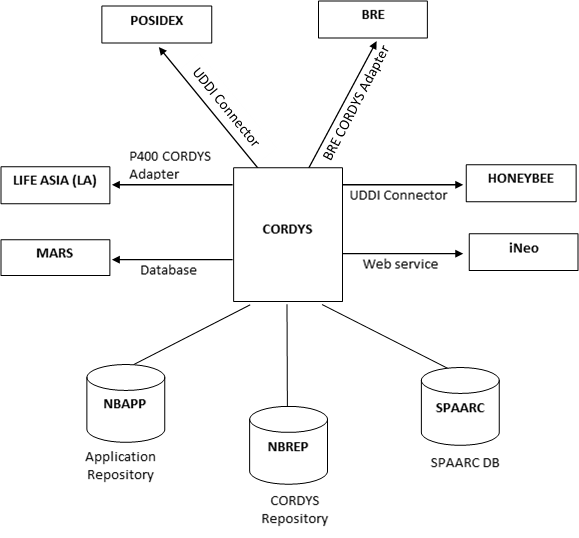
# Deployment Process

|  |  |  |
| --- | --- | --- |
| **S.No** | **Queries** | **Response** |
| **1)** | What are the deployment mechanisms for this application? | For major deployment, application downtime is taken between 9AM to 9:30 AM.  Deployment is carried out by creating an ISVP from the Development server. The isvp package is moved on the production server and then uploaded and installed using Application registry. |
| 2) | Who is the in-charge for deployment? | Development Team (Darshan) is the SPOC for deployment. |
| 3) | Capture the mailing list to whom the details of production release needs to be communicated? And Capture the communication mail format? | Mail is sent to Project Manager (Cordys), Shailendra, Abhishek Kumar. |

* **Support Process**

|  |  |  |
| --- | --- | --- |
| **SR.No** | **Queries** | **Response** |
| 1 | Incident/ Defect Tracking tool | FCRM |
| 2 | Service Window | 24 X 7 |
| 3 | Please provide details of the SLAs defined for the application support |  |
| 4 | Service Level Agreement (both response as well as resolution) |  |
| 5 | Application – Frequent/ known issues list and their resolution |  |
| 6 | What is the number of change requests that emanate for the application in a year? | NA |
| 7 | Typically what is the number of defects that emanate for the application in a year? | NA |

1. **SYSTEM ARCHITECTURE**

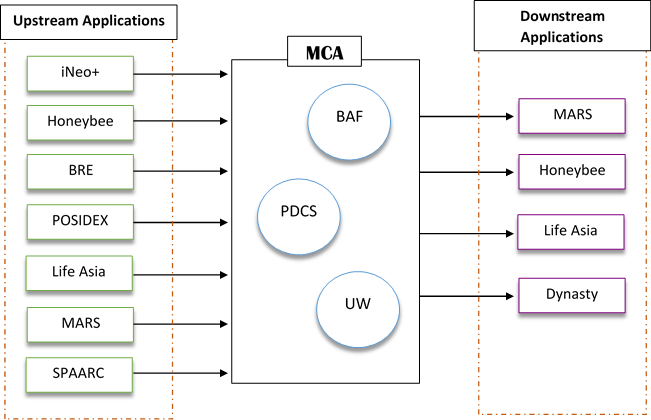


The New Business aspect of Insurance business has sequence of processes which all culminates to a client and contract creation in the Life Asia system.

MCA project consists of 3 modules which need to be completed for a successful issuance of a policy.

1. **Branch Application Form (BAF):** BAF is a data entry system which takes cases and application details are stored in the database. Once the application details are available in database, the application proceeds to other 2 modules for further scrutiny depending on various scenarios.
2. **Underwriting (UW)**: The analysis of risk for the application being scrutinized and decisions are given manually. UW checks the decision in the BAF module. Applications except decision ‘ST’,’OT’,’RM’ are pulled into UW.
3. **Policy Data Check System (PDCS)**: This is a check system to maintain the accuracy of data entry done on the BAF level. It goes through a quality check process so that any erroneous data entry is rectified. There are various stages in PDCS viz. KYC, D1, D2, QC.

MCA has the following upstream and downstream applications:



## MARS

Introduction:

MARS is a system to handle additional medical requirements for a particular case. It handles the end to end flow for the additional requirement to be raised and fulfilled and case to be re-inwarded in MCA. MARS fires additional BRE rules to give a different set of requirements to be fulfilled for case to proceed.

Functionality:

Once the BAF data entry is completed, depending on BRE decision, Applications flow into different modules. When the BRE decision is ‘RM’, the case is first pulled into MARS (MARS uses a scheduler to pull cases from MCA).

Once the data entry is completed in MARS, the case comes back into underwriting module. CUW scheduler fetch completed cases from MARS. There are a series of checks to find out if data entry in MARS is completed. Only after all the checks are passed successfully, case gets pulled in UW.

Mode of Connecting:

MCA connects to MARS DB using JDBC thin connectivity. Metadata of the Honeybee database is uploaded in MCA CORDYS. Web services are built on the Metadata and data is sent and received.

## Honey bee

Introduction:

Honeybee is a system used primarily for temporary storage of Images and also UW legacy system for underwriting applications. It itself interfaces with multiple applications like Insta, Omnidocs to keep all the corrected images.

Functionality:

Honeybee is an upstream as well as downstream system. It has multiple interfaces in MCA.

1. When an application needs to first be entered in BAF, first there is a check on Honeybee Database to check if the image has been pasted. Depending on the output, the application is populated in the BAF work list (BAF work list is the common pool used by vendors to pick applications). Honey bee table Application Master is checked for populating the application in the work list.
2. Once BAF data entry completes, the case is accepted and BRE decision is updated in MCA\_BLOCKING\_MASTER of honeybee.
3. In underwriting, when ‘View Documents’ is asked for, Honeybee link is called and Document is directly opened.
4. IUW scheduler and CUW scheduler are used to pull data into underwriting. It pulls fresh as well as AMR cases. While pulling cases for which requirements had been raised, scheduler checks for requirement being fulfilled in the Honeybee table. It checks and updates the table APPLICATION\_MASTER to distinguish between cases already pulled and fresh cases.
5. After a case is closed in Underwriting, the final decision is updated in the Honeybee. Honeybee pulls decisions and stores it.
6. PDCS pulls applications only after checking the image in the honeybee table (TBL\_IMAGE\_TRANSACTION\_PI). Even the rejected cases which have to flow again in PDCS go through a check in the same table. It checks whether new image is available.

Mode of Connecting:

Honeybee database is directly connected through CORDYS using JDBC connector

## Life Asia

Introduction:

Life Asia is the mother system developed on Mainframe. Life Asia stores client and contract details of all the policies and customers. The mother system is connected by almost all the applications in the organization. The data is stored and retrieved from its database using P400 connector. MCA uses life Asia multiple times.

Functionality:

1. Dedup: Checking for presence of the proposer and life assured details in Life Asia. This helps in avoiding fraudulent transactions. It also pulls data of the previous policies and stores it in the Application Database.
2. ATS creation in BAF: ATS creation in Life Asia can also be done through BAF after completion of data entry through P400 connector.

Mode of Connectivity:

Life Asia is connected using a special P400 connector. The data transfer takes place using copybooks. Copybooks define data structures of COBOL programs.

## BRE

Introduction:

BRE is a Business Rules Management System. It is an algorithm based system which provides automated decisions for applications.

Functionality:

Once data entry of BAF is done, a request XML is created. This XML is sent to BRE. BRE in return sends a response XML. This XML consists of decision and other calculated outputs like Total sum assured (TSA), total rated sum assured (TRSA), BMI etc. Depending on this decision, the case proceeds to UW and issuance.

Mode of Connecting:

BRE uses a special BRE connector configured in CORDYS. BRE exposes an Object which is parsed on CORDYS end. The connector does the job of converting the formats and sending the request to BRE.

## Posidex

Functionality:

BAF has a feature for ‘lookup’. This feature reduces the efforts needed for data entry as existing customers’ information can be pre populated. While BAF data entry is starting, lookup can be used to pre-populate personal details of the proposer.

Mode of Connecting:

Posidex team has exposed their lookup web service WSDL. The web service is consumed by MCA using UDDI connector.

## Control M

Functionality:

Once the data entry and quality check is done, application is complete to move to Life Asia. Control M checks all such applications and pulls them. Control M uploads these applications in lots and returns the status. The lots which are not uploaded successfully in Life Asia are saved in failed lots in Control M system. Applications which are uploaded but gave exceptions are also recorded in the Control M database. PDCS maintains status of applications using a flag called CASE\_STAGEID.

Mode of Connecting:

Control M executes a JAR file on their end. Hence uses JDBC connectivity.

## iNeo+

Introduction:

iNeo+ provides an interface over the internet for purchase of policies online. This system is also responsible pushing data to MCA for all the online applications.

Functionality:

When an application is created online by an agent / customer, iNeo hits MCA to receive a BRE decision. In this process, we dump data in MCA database, get previous contracts for life assured and proposer, and finally hit BRE to get a decision. This decision is sent to iNeo as the response.

Once decision is sent back, MCA waits for the payment to be done for the application and then moves the application to underwriting. If the BRE decision is ‘ST’, ‘OT’ or ‘PA’ then, the application is moved to ‘OTC Pool’ and sent for issuance in parallel. Applications with any other decision from are moved to ‘Online Pool’.

Mode of Connecting:

iNeo+ database is directly connected to CORDYS using JDBC connector. iNeo+ consumes web service to push data in MCA.