

**SINGLE CUSTOMER VIEW**

**SYSTEM OPERATION DOCUMENT**

**MAB/GROUP IT/SOD/SCV/V2.2**

##### Prepared by :

##### SCV Support Team

##### Application Management Services (AMS)

##### Group IT

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1. - MANUAL ADMINISTRATION

# RECORD OF REVISION

| **No.** | **Description Of Changes** | **Issue No.** | **Rev. No.** | **Author** | **Effective Date** |
| --- | --- | --- | --- | --- | --- |
| 1 | Initial draft | 1 | 0 | Abhilash Ch | 25-Mar-2015 |
| 2 | Updated for NewCo Changes | 1 | 1 | Abhilash Ch | 19-Oct-2015 |
| 3 | Updated SOD in new format | 1 | 2 | Abhilash Ch | 10-May-2016 |
| 4 | Included DCT Changes | 1 | 3 | Abhilash Ch | 14-Mar-2017 |
| 5 | Backup & Recovery – Azure | 1 | 4 | Abhilash Ch | 16-May-2017 |
| 6 | Updated Application Details Related to Amadeus | 1 | 5 | Ranjith T | 02-Jan-2018 |
| 7 | Updated e-MBQ module in MHSSP Application | 1 | 6 | Senthil | 09-Apr-2018 |
| 8 | Updated CMDB configurations | 1 | 7 | Abhilash Ch | 11-Apr-2018 |
| 9 | Updated Table Descriptions and Image Descriptions.  Removed MHSSP and SCM | 1 | 8 | Ranjith T | 03-Aug-2018 |
| 10 | Decommission of Pre-Flight Adobe Notification | 1 | 9 | Ranjith T | 26-Apr-2019 |
| 11 | Updated Escalation Matrix | 1 | 10 | Prashant Chauhan | 14-Sep-2019 |
| 12 | Updated version and AMS support team changes | 2 | 0 | Deepti Jain | 15-Sep-2019 |
| 13 | Updated the latest CR, Maintenance activities. decommission application- | 2 | 1 | Prashant Chauhan | 19-June-2020 |
| 14 | Updated the Contract Management | 2 | 1 | Prashant Chauhan | 25-June-2020 |
|  |  |  |  |  |  |

# LIST OF EFFECTIVE PAGES

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Part** | **Page** | **Issue No.** | **Revision No.** | **Effective Date** |  | **Part** | **Page** | **Issue No.** | **Revision No.** | **Effective Date** |
| 1 | 1-1 | 1 | 2 | 10-05-16 |  |  | 4-17 | 1 | 8 | 03-08-18 |
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|  | 1-3 | 1 | 3 | 14-03-17 |  |  | 4-18 | 1 | 8 | 03-08-18 |
|  | 1-4 | 1 | 2 | 10-05-16 |  |  | 4-18 | 2 | 1 | 25-06-20 |
|  | 1-4 | 2 | 0 | 05-09-19 |  |  | 4-19 | 1 | 8 | 03-08-18 |
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|  | 2-3 | 1 | 3 | 14-03-17 |  |  |  |  |  |  |
| 3 | 3-1 | 1 | 2 | 10-05-16 |  |  |  |  |  |  |
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| 4 | 4-1 | 1 | 2 | 10-05-16 |  |  |  |  |  |  |
|  | 4-2 | 1 | 9 | 26-04-19 |  |  |  |  |  |  |
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|  | 4-7 | 2 | 1 | 25-06-20 |  |  |  |  |  |  |
|  | 4-8 | 1 | 8 | 03-08-18 |  |  |  |  |  |  |
|  | 4-9 | 1 | 8 | 03-08-18 |  |  |  |  |  |  |
|  | 4-10 | 1 | 8 | 03-08-18 |  |  |  |  |  |  |
|  | 4-11 | 1 | 2 | 10-05-16 |  |  |  |  |  |  |
|  | 4-12 | 1 | 3 | 03-08-18 |  |  |  |  |  |  |
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|  | 4-16 | 1 | 9 | 26-04-19 |  |  |  |  |  |  |

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Table 1

# LIST OF ABBREVIATIONS

The following are the abbreviations used for the purpose of simplification.

|  |  |
| --- | --- |
| **Abbreviation** | **Denote** |
| AMS | Application Maintenance & Support |
| MD | Managing Director |
| CFO | Chief Financial Officer |
| NRM | Network and Revenue Management |
| SOD | System Operating Document |
| DCT | Data Centre Transformation |
| ADF | Azure Data Factory |

Table 2

# CONDITION OF USE

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1. - MANUAL BACKGROUND

# INTRODUCTION

This is the SCV SOD, hereinafter referred to as “the Policy” provides comprehensive operating procedures within the scope and application herein defined in Part 2 Section 3.0 for Malaysia Airlines Berhad (MAB).

# PURPOSE

The objective of this document is to provide relevant information required to operate and “Single Customer View”. The platform is ready for implementation and handover to IT Operations.

# SCOPE AND APPLICATION

This document covers relevant information required to operate and support the SCV system in production environment. This covers the maintenance operation of the system, database and interfaces.

This SOD does not include the following:

* Application maintenance for the sub-systems interfaced by the core system.

# TERMINOLOGY

The following are the terminologies used for simplification.

|  |  |  |
| --- | --- | --- |
| **No.** | **Term** | **Description** |
| 1. | App | Application |
| 2. | DB | Database |
| 3. | DSL | Domain Specific Language |
| 4. | AD | Active Directory |
| 5. | OS | Operating System |

Table 3

# REFERENCES

The following are references used for preparing the document.

| **No.** | **Document** | **Description** |
| --- | --- | --- |
| 1 | SOW | Statement of Work as supplied as agreed upon between ATOS and MAB |
| 2 | Technical Design Document | Document highlighting the Technical Design & architecture of the collaboration platform. This is supplied by ATOS |
| 3 | Test Plan Document | Document highlighting the Test plan for the collaboration platform. This is supplied by ATOS |

Table 4

1. – OVERVIEW OF BUSINESS PROCESS

# OVERVIEW OF BUSINESS PROCESS

Single Customer View (SCV) integrate Passenger touch point channel and build a consolidated view of Customer Data in MAB Data Centre which forms the bedrock source of Malaysia Airlines Customer Information.

The below applications use the data in MHSCV for their Business needs.

* PDD Viewer
* RTMM
* MHVIP
* SCV DB Data Transfer Jobs
  + Mobile Number Data to Swift

1. - MANUAL CONTENT TITLE

# SYSTEM OVERVIEW

Single Customer View is an initiative recommended as part of Enterprise IT Strategy in 10Oct2013. Single Customer View model was introduced to different business divisions from Jan 2014.

The objective of Single Customer View Project is

* To integrate Passenger touch point channel and build a consolidated view of Customer Data in MAB Data Center which forms the bedrock source of Malaysia Airlines Customer Information.
* To use the Customer Profile View for Customer Operational Alert, customer servicing and targeted ancillary sales
* To provide customer data to other enterprise requirements

# SYSTEM CONCEPT DIAGRAM

The below diagram represents SCV system structure.

SWIFT

ENRICH



**In**

**-**

**House SCV**

**Airline Data**

**Model**



**Rule Engine**



**View Profile**

**Deduped**

**,**

**Cleansed**

**Data**



**FFP DTLS**



**OPERATIONS**



**COMMERCIAL**

**CUSTOMER**

**SERVICE**



**Chef on Call Meal Notification (CCM)**



**Flight Disruption Notification (FDN)**



**Self Service check**

**-**

**in Dashboard**

**–**

**(SSCI)**



**Data Analytics**

Mobile no data



**PDD Viewer**



**RTMM**

EA



**PDD Data**

EA



**SBR DTLS**



**SCV**

**-**

**UI**



**MHVIP**

**Azure Data Factory**

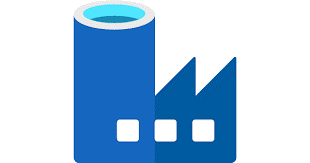


Figure 2- SCV System Concept Diagram

# SYSTEM ARCHITECTURE

For the production and development server will be separate environment. The below diagram showing SCV Prod, DR and Development environments isolation.

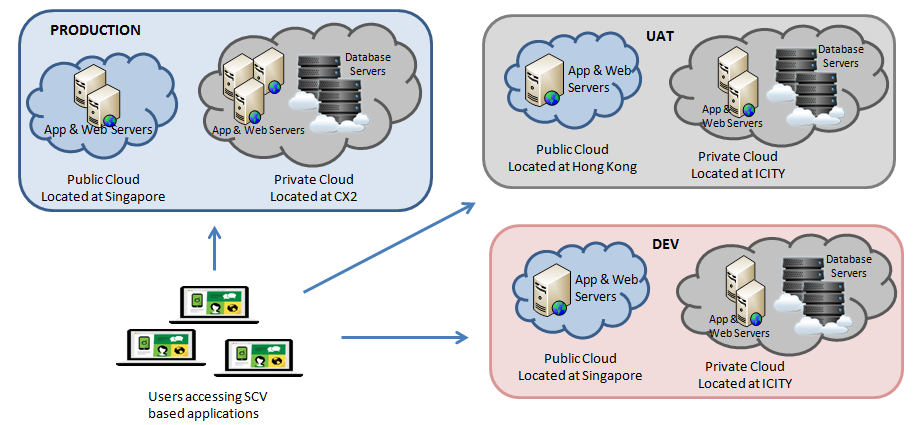


Figure 2 - Production, DR and Development environments isolation

This project aim is to implement the Single Customer View in MAB Data Center. Only through secure applications the data can be accessed from SCV. External applications need to interface through EAI/MAB SFTP Server and proper system credential validation will be done before making the data available. Data Accessibility is decided by the Data Governance Board upon data requirement from other sources.

For the user management, registered user is all from the MAB Active Directory, the login and password will be also retrieved from the AD using LDAP protocol.

Database hosted in MAB DC and the applications can access data only thru MAB network. SCV will read data from touch points and feed downstream applications. It will not update or modify source data.

Only operational notifications and ancillary sales initiated through SCV database and after Pax books with MAB the PDPA is met and MAB has the right to contact customer with the customer data.

Data Consent at Source if any will be taken into account before using the data. Data Usage and Access is governed by SCV governance under CRM governance.

# INTERFACES

## User Interfaces

SCV System has the below application modules:

| **Sl No** | **Apps** | **Application URL(PROD)** | **Application URL(DEV)** |
| --- | --- | --- | --- |
| 1 | Data Analytics | N/A |  |
| 2 | PDD Viewer | <http://pddviewer.mas.net/pddviewer/> |  |
| 3 | RTMM | <http://scv.mas.net/SCV_APP/> |  |
| 4 | MHVIP | http://mhvip.mas.net/mhvip/ |  |

Table 5

The functionality of the application modules in SCV is described below:

* Data Analytics:

SCV tables have been provided direct access to Data Analytics team for Data Analytics purpose.

* PDD Viewer:

PDD Viewer application lets the user to view the complete Post departure data of the passengers. Users can perform the search based on flight numbers and get the passengers details for the corresponding flight. Upon clicking the passenger, the entire post departure data of the passenger can be viewed.

* RTMM

RTMM application is used to send NO PNL message to SITA DCS system. The NO PNL messages are sent to SITA so that SITA can initiate the flights in the NO PNL messages. The flight initiation in SITA is done so that SITA can accept the CREW details from NCMS system.

* MHVIP:

MHVIP is used to identify the valid VIP/VVIP bookings and valid enrich platinum member’s bookings. User can trigger the booking details to interested parties for making sure the VIP/VVIP or enrich platinum member is provided with the facilities as per MAB guidelines.

## System Interfaces

SCV System has the below user Interfaces:

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Source Application Name | Target Application Name | Direction | Middleware Tool | Protocol Used | Server: Port/Queue/URL details | Message Type/ Request/ Response | Trigger  event/Timing | Data Group & Data Content |
| Edifact Adapter | SCV DB | inbound | Databroker | SFTP | Sftp.malaysiaairlinescom:22 | Flat File | 00.30 MYT | RIT Data |
| Edifact Adapter | SCV DB | inbound | Databroker | SFTP | Sftp.malaysiaairlinescom:22 | Flat File | From 01:00MYT Every 3 Hrs | DCS Data |
| Crane | SCV DB | inbound | SFTP Server | SFTP | Sftp.malaysiaairlinescom:22 | Flat File | 14:00 MYT | Enrich Data |

Table 6

The functionality of the Batch Jobs in SCV is described below:

* SBR Data from EA to SCV:

Booking data from 1A RES is sent to SCV from EA on daily basis. The booking data contains PNR Info, Contact Info, SSR Details, OSI Info, Segment Info, EMD Details of the passenger

* PDD Data from EA to SCV

Post departure data from 1A DCS is sent to SCV from EA for every three hours. The post departure data contains the complete transaction details of the passenger in DCS.

* Enrich Data from Crane to SCV

Enrich data is sent from Crane to SCV via MAB Sftp Server on daily basis. Enrich data contains enrich profile info, accrual and redemption data, passenger’s preference, miles, contacts which the passenger has provided while enrolling with enrich

# WARRANTY AND MAINTENANCE PERIOD

The following table shows the warranty and maintenance period as per contract.

|  |  |  |
| --- | --- | --- |
| **Warranted Items** | **Start Date** | **End Date** |
| Linux Servers Hardware maintenance by Azure. | Renewal from last maintenance contract | 31-May-22 |
| SCV application maintenance by AMS support team | 01-May-2019 | 30 April-24 |
| Azure Database for PostgreSQL maintenance by Microsoft Azure | Renewal from last maintenance contract | 31-May-22 |

Table 7

# ROLES AND RESPONSIBILITIES

Below are the roles and responsibilities of SCV support persons,

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Role** | **Responsibility** | **Name** | **Company / Department** | **Contact (Phone & Email)** |
| Application SME | Responsible for ID creation, modification, deletion and review of user access    Responsible for monitoring DB jobs and executing them. | Prashant Chauhan  Palash  Pandit  Sachin Chourasiya | ATOS | +918305968583  +919584530565  +919891140955 |
| Database Admin | Responsible for Database configuration and monitoring system performance | Abhinav Kishore | Tata Consultancy Services | +60173764522 |

Table 8

\*Note: Proper handover must be performed if there is any change to the above roles and the matrix will be updated accordingly.

# TECHNICAL SPECIFICATIONS

## Server Details

The below table shows the SCV server details.

| **Application(s)** | **Location** | **Hostname** | **IP Address** | **Environment** | **Server Function** |
| --- | --- | --- | --- | --- | --- |
| NMHLINKS (FSIS, FMON, FDN) | MAHK (Public Cloud-Hongkong) | MAHK-2NMHLINKSAPP1 | 10.222.4.14 | DR | Application |
| NMHLINKS | MAHK (Public Cloud-Hongkong) | MAHK-2NMHLINKSWEB1 | 10.222.2.8 | DR | Web |
| NMHLINKS (FSIS, FMON, FDN) | MASG (Public Cloud- Singapore) | MASG-1NMHLINKSAPP1 | 10.221.4.50 | PROD | Application |
| NMHLINKS | MASG (Public Cloud- Singapore) | MASG-1NMHLINKSWEB1 | 10.221.2.12 | PROD | Web |
| NMHLINKS (FSIS, FMON, FDN) | MASG (Public Cloud- Singapore) | MASG-3NMHLINKSAPP1 | 10.221.12.45 | UAT | Application |
| SCV (SCV-UI, RTMM, Phone Number Utility) | CX2 (Private Cloud-CyberJaya) | CX2-1SCVAPP1 | 10.223.4.49 | PROD | Application |
| SCV | CX2 (Private Cloud-CyberJaya) | CX2-1SCVDB1 | 10.223.6.28 10.223.37.25 10.223.6.56 10.223.6.53 10.223.6.54 10.223.6.55 | PROD | Database |
| SCV | CX2 (Private Cloud-CyberJaya) | CX2-1SCVDB2 | 10.223.6.49 10.223.37.26 10.223.6.52 | PROD | Database |
| SCV | CX2 (Private Cloud-CyberJaya) | CX2-1SCVWEB1 | 10.223.2.22 | PROD | Web |
| SCV (SCV-UI, RTMM, Phone Number Utility) | ICTY (Private Cloud-iCity) | ICTY-2SCVAPP1 | 10.224.30.39 | DR | Application |
| SCV | ICTY (Private Cloud-iCity) | ICTY-2SCVDB1 | 10.224.32.28 | DR | Database |
| SCV | ICTY (Private Cloud-iCity) | ICTY-2SCVWEB1 | 10.224.28.22 | DR | Web |
| SCV (SCV-UI, RTMM, Phone Number Utility) | ICTY (Private Cloud-iCity) | ICTY-3SCVAPP1 | 10.224.20.37 | UAT | Application |
| SCV | ICTY (Private Cloud-iCity) | ICTY-3SCVDB1 | 10.224.22.29 | UAT | Database |
| 1SCVAPP2 (MHVIP, CCM, SSCI) | MASG  (Public Cloud-Singapore) | MASG-1SCVAPP2 | 10.221.4.57 | PROD | Application |
| 3SCVAPP2 (MHVIP, CCM, SSCI,FDN) | MASG  (Public Cloud-Singapore) | MASG-3SCVAPP2 | 10.221.12.25 | UAT | Application |
| 1MFMIG   (PDD Viewer) | MASG (Public Cloud- Singapore) | MASG-1MFMIGAPP1 | 10.221.4.18 | PROD | Application |
| 3MFMIG   (PDD Viewer) | MASG (Public Cloud- Singapore) | MASG-3MFMIGAPP-LX | 10.221.12.20 | UAT | Application |
|  | Azure Singapore | masg-3scvdbps1.postgres.database.azure.com | 3scvpgdb.mas.net | UAT | Database |
|  | Azure Singapore | masg-1scvpgdb1.postgres.database.azure.com | 1scvpgdb.mas.net | PROD | Database |

Table 9

## Hardware Specifications:

The below table shows the hardware specification of SCV servers.

| **Hostname/Application(s)** | **Azure VM Size** | **OS Version** | **CPU** | **Memory (GB)** | **SWAP (GB)** |
| --- | --- | --- | --- | --- | --- |
| MAHK-2NMHLINKSAPP1 / FSIS, FMON, FDN | Standard DS2 v2(2 cores, 7 GB memory) | RHEL 7.2 | 2 | 7 | 8 |
| MAHK-2NMHLINKSWEB1 | Standard DS2 v2(2 cores, 7 GB memory) | RHEL 7.2 | 2 | 7 | 8 |
| MASG-1NMHLINKSAPP1 / FSIS, FMON, FDN | Standard DS2 v2(2 cores, 7 GB memory) | RHEL 7.2 | 2 | 7 | 8 |
| MASG-1NMHLINKSWEB1 | Standard DS2 v2(2 cores, 7 GB memory) | RHEL 7.2 | 2 | 7 | 8 |
| MASG-3NMHLINKSAPP1 / FSIS, FMON, FDN | Standard A2\_v2 (2 cores, 4 GB memory) | RHEL 7.2 | 2 | 4 | 8 |
| CX2-1SCVAPP1 / SCV-UI, RTMM, Phone Number Utility | NA | RHEL 7.2 | 4 | 12 | 12 |
| CX2-1SCVDB1 | NA | RHEL 7.2 | 4 | 24 | 24 |
| CX2-1SCVDB2 | NA | RHEL 7.2 | 4 | 24 | 24 |
| CX2-1SCVWEB1 | NA | RHEL 7.2 | 2 | 4 | 12 |
| ICTY-2SCVAPP1 / SCV-UI, RTMM, Phone Number Utility | NA | RHEL 7.2 | 4 | 12 | 12 |
| ICTY-2SCVDB1 | NA | RHEL 7.2 | 4 | 36 | 40 |
| ICTY-2SCVWEB1 | NA | RHEL 7.2 | 2 | 4 | 12 |
| ICTY-3SCVAPP1 / SCV-UI, RTMM, Phone Number Utility | NA | RHEL 7.2 | 2 | 4 | 12 |
| ICTY-3SCVDB1 | NA | RHEL 7.2 | 4 | 20 | 12 |

Table 10

## Software Specifications

The below table shows the software specification of SCV servers.

| **No** | **Software** | **Specification** |
| --- | --- | --- |
|  | Application & Database Server Operating System | RHEL 7.2 |
|  | Monitoring application | Tivoli 6.2 |
|  | Programming Language - UI | Java, Webservices & JSP, JavaScript, Spring, Struts |
|  | Programming Language - DB | PL/SQL |
|  | Front-end | IE 8+, Firefox 5+, Chrome 18+, Safari 5+, Opera 9+ |
|  | Database | Postgres SQL |
|  | Operating System | Windows |
|  | Application | Tomcat 9.0.36 |
|  | Webserver | Apache 2.4.23 |

Table 11

## Communication / Network Specification

The below table shows the communication/network specification of SCV servers.

|  |  |  |
| --- | --- | --- |
| **No** | **Category** | **Configuration** |
|  | Protocol | Server: TCP/IP  Client: TCP/IP |
|  | Webservice | EAI - B2B |

Table 12

The below image(Figure 3) shows the distribution of SCV Production, DR and development environment resources in MAB private and public cloud. The image also shows how the user to system interaction is occurring in MAB network.

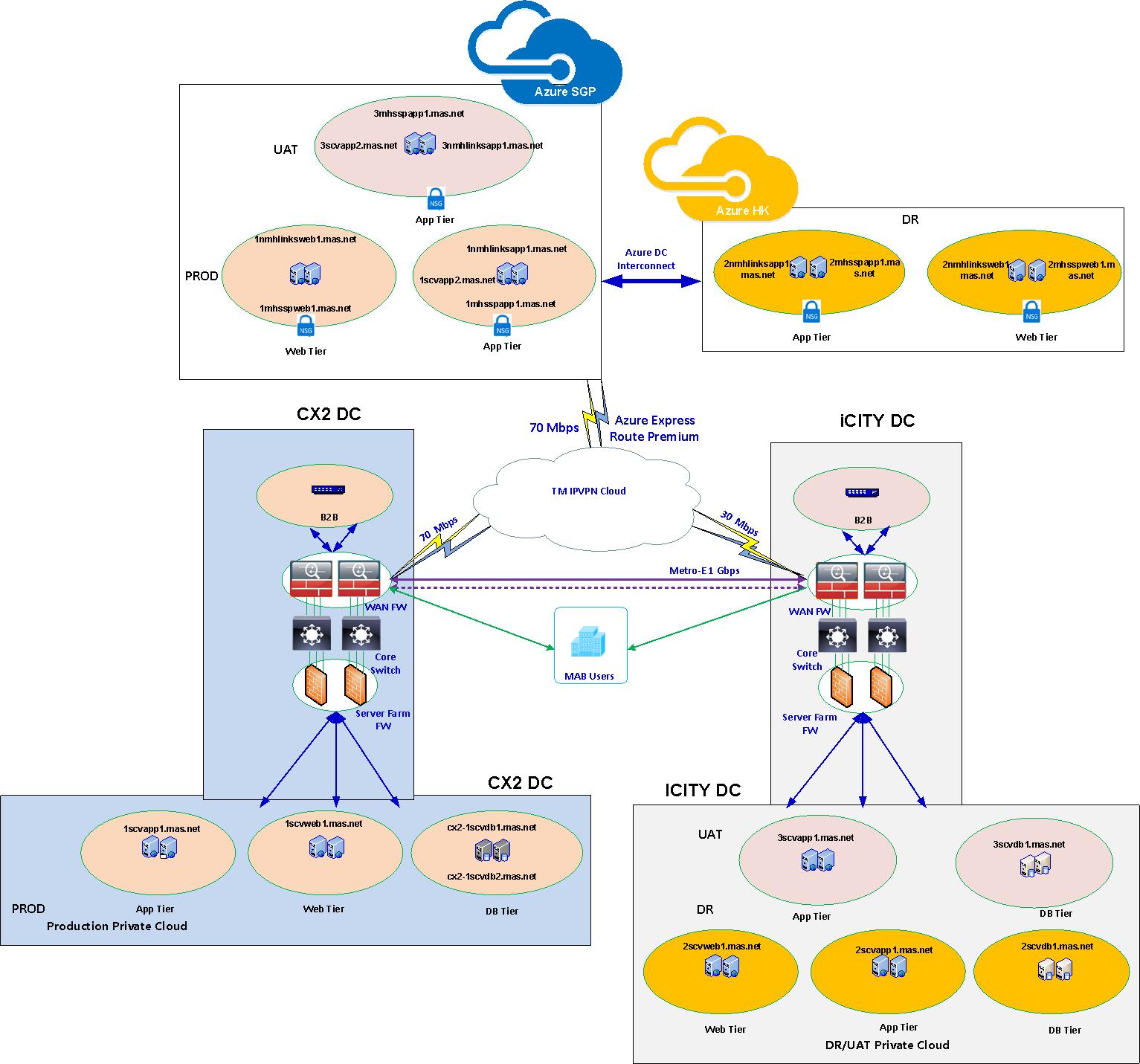


Figure 3 : SCV Resource Distribution over Cloud

## User and Equipment Locations

Users need an appropriate browser to access the application. Supported browsers are listed in Section 4.2.

## File Management

The below table shows the system files and locations related to SCV,

|  |  |
| --- | --- |
| **LIBRARIES AND FILES** | **LOCATION (MOUNT POINT)** |
| Apache | /usr/local/apache |
| Tomcat | /tomcat |
| Application IDs home directory | /home/appadmin  /home/tomcatadmin |
| Postgres and Databases | /scvp\_OH  /home/oracle |
| FTP IDs home directory | /home/mhscv  /home/ftpuser  /mhscv |

Table 13

# TECHNICAL OPERATIONS GUIDE

## Backup and Recovery

Database backup will be taken daily. In case of any disruption, system can be recovered to older date.

Azure Public Cloud: Recovery Services vault is an entity that stores all the backups and recovery points that have been created over time. The vault also contains the backup policies that will be applied to the virtual machines being backed up. When the Recovery services initiates a backup job at the scheduled time, it triggers the backup extension to take a point-in-time snapshot. The Azure Recovery service uses the VMSnapshot extension in Windows, and the VMSnapshotLinux extension in Linux. The extension is installed during the first VM backup.Once the Azure Backup service takes the snapshot, the data is transferred to the vault. To maximize efficiency, the service identifies and transfers only the blocks of data that have changed since the previous backup. When the data transfer is complete, the snapshot is removed and a recovery point is created.

Private Cloud Servers: Commvault Backup

1. **Application Back-up:**

The data backup on SCV applications are happens as given below,

| **Hostname / Application(s)** | **Backup Type** | **Frequency** | **Schedule Time (MYT)** | **Retention / No. of Versions** | **Remarks** |
| --- | --- | --- | --- | --- | --- |
| CX2-1SCVAPP1 / SCV-UI, RTMM, Phone Number Utility | Daily Incremental, Weekly Full | Daily | 0300AM | 30 Days |  |
| CX2-1SCVWEB1 | Daily Incremental, Weekly Full | Daily | 0300AM | 30 Days |  |
| MASG-1NMHLINKSAPP1 / FSIS, FMON, FDN | Full | Every Saturday | 5:30 PM | 6 Versions | Monthly first Saturday backup retention is 2 months |
| MASG-1NMHLINKSWEB1 | Full | Every Saturday | 5:30 PM | 6 Versions | Monthly first Saturday backup retention is 2 months |
| ICTY-2SCVAPP1 / SCV-UI, RTMM, Phone Number Utility | Daily Incremental, Weekly Full | Daily | 0500AM | 30 Days |  |
| ICTY-2SCVWEB1 | Daily Incremental, Weekly Full | Daily | 0500AM | 30 Days |  |
| MAHK-2NMHLINKSAPP1 / FSIS, FMON, FDN | Full | Every Saturday | 8:00 PM | 5 Versions | Monthly first Saturday backup retention is 2 months |
| MAHK-2NMHLINKSWEB1 | Full | Every Saturday | 8:00 PM | 5 Versions | Monthly first Saturday backup retention is 2 months |
| ICTY-3SCVAPP1 / SCV-UI, RTMM, Phone Number Utility | Daily Incremental, Weekly Full | Daily | 0500AM | 30 Days |  |
| MASG-3NMHLINKSAPP1 / FSIS, FMON, FDN | Full | Every Saturday | 5:30 PM | 4 Versions | Monthly first Saturday backup retention is 2 months |

Table 14

1. **Database Back-up:**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **PostgreSQL DB Name** | **Data Size** | **Full Backup Frequency** | **Differential Backup Frequency** | **Log Backup Frequency** | **Default / Current Backup Retention** | **Managed By** |
| masg-3scvdbps1 | Server with upto 4 TB storage | Weekly | Daily Twice | Every 5 minutes | 7 Days | Azure |
| masg-1scvpgdb1 | Server with upto 16 TB storage | First full snapshot backup Immediately on creating DB | Daily 3 differential snapshot backup | Every 5 Minutes | 15 days | Azure |

The data backup on SCV DB is happening as per below table,



Table 15

## Monitoring Tools

SCV Production Server and Processes are monitored by IBM Tivoli monitoring. Refer to TEC Events escalation procedure for more details

## Batch Jobs

N/A

## Report Management

N/A

## Baseline Performance Information

The baseline performance Information for SCV is given below,

|  |  |  |
| --- | --- | --- |
| **No.** | **Activity** | **Expected Response Time** |
| 1. | Average time to generate response to requests | < 2 seconds |
| 2. | Average time taken to load each page | < 5 seconds |

Table 16

Acceptable down time during operation hours is based on BCD2 plan.

# MAINTENANCE AND SUPPORT

This section provides information to Help Desk personnel who are expected to receive problem or error reports from the users.

## Problem Logging

The Help Desk personnel should ask the users:

For a screenshot of the error/issue that they are facing

For the steps that need to be performed to recreate the error/issue

To check the same steps to recreate the error/issue on another machine

To check if others are also facing the same error/issue

## Problem Categorization and Escalation Matrix

The tables below explain the problem categorization and escalation matrix for SCV.

|  |  |  |  |
| --- | --- | --- | --- |
| **Problem Category** | **Severity Level** | **Problem Description** | **Escalation** |
| System Completely Unusable | 1 | Page not loading | APP - SCV |
| Functionality Completely Unusable | 2 | Part of the applications functionality | APP - SCV |
| Minor Functionality Error | 3 | The application as a whole is working but some small functionality is not working | APP – SCV |
| Cosmetic UI Error | 4 | The application and the concerned functionality is working but the UX is erroneous/misleading | APP – SCV |

Table 17

|  |  |  |
| --- | --- | --- |
| **No.** | **Type of support** | **Contact Details** |
| 1. | Level 1:  IT Helpdesk | (006) 03 7863 2020 [Helpdesk@malaysiaairlines.com](mailto:Helpdesk@malaysiaairlines.com) |
| 2. | Level 2: Application  APP-SCV | APP-SCV: [GD\_AMS\_SCV@malaysiaairlines.com](mailto:GD_AMS_SCV@malaysiaairlines.com) SCV applications : +918305968583, +91 9584530565,  SCV DB : +91 8359045903 [GD\_AMS\_MHSCV@malaysiaairlines.com](mailto:GD_AMS_MHSCV@malaysiaairlines.com) |
| 3. | Level 2: System & Network Infra\_Midrange & Database | Midrange: 1800817802 #3 [GD\_TCSMidrange@malaysiaairlines.com](mailto:GD_TCSMidrange@malaysiaairlines.com)  Database: 1800817802 #1  [GD\_TCSDatabase@malaysiaairlines.com](mailto:GD_TCSDatabase@malaysiaairlines.com) |

Table 18

## Application / Technical Support

The SCV application is supported by below associates.

|  |  |  |
| --- | --- | --- |
| **Support Team** | **Team Members** | **Contact Numbers** |
| AMS – SCV | Prashant Chauhan  Palash Pandit  Sachin Chourasiya | HP: *+*91 8305968583  HP: +91 9584530565  HP:+918359045903 |

Table 19

## Support/Maintenance activities

**SCV DB:**  
The database jobs run daily. Alerts are generated if the execution fails and emailed to support team. DB jobs fail in either of the case:

1. All or some data files not found in the designated folder when the job is run.
2. Number of records in the file header do not match the actual number of records in the file.
3. Incorrect data in the file.

When the jobs fail the correct files have to be requested from 1A Helpdesk. Files need to be processed by running the DB job manually since the scheduled one failed.

**PDD:**

DB job for loading PDD data in SCV DB runs daily. If the job fails then the files needs to be requested from 1A Helpdesk. These files are loaded by running the job manually. After loading the data is verified from PDD Viewer.

**Data Load to Replica DB temp\_load table:**  
Every month user sends a csv file to load into MABCRANE\_PROD.temp\_load table. This data is utilized by the data analytics team.  
  
NOTE:   
Number field changed to varchar(50). Maximum data length can be 50 characters

**RTMM:**

1. The flights for which crew details are sent to SITA DCS need to be initiated and closed before the schedule date and after departure respectively. The messages are triggered from RTMM to SITA DCS. Alerts are generated if NO PNL messages are not sent to SITA DCS. These alerts need to be monitored daily. Flight needs to be initiated manually by sending mail to SITA DCS.
2. The flights for which NO PNL messages are sent to RTMM, close messages need to be sent when the flight has departed. If the close messages could not be sent to SITA DCS then they need to be sent manually by sending mail to SITA DCS. Hence close messages need to be monitored daily.
3. When new flights need to be initiated and closed in SITA DCS, the flight should be configured in AODB. On RTMM side, we need to check whether the station for which the flights need to be monitored is in the stations list in RTMM DB. If not, the station needs to be added. The NO PNL and close messages need to be monitored for newly added flights. In case the messages are not being triggered by RTMM, AODB needs to be informed and flight needs to be manually opened and closed as given in 1 and 2.
4. There are times when crew list is not triggered to SITA DCS and the flight is closed by RTMM. In such case the flights need to be re-opened manually in SITA DCS by sending mail.

**RTMM** - Configuring new SITA certificate for RTMM to SITA connection establishment.  
**Validity**- 365 days | 3/23/2021 To 3/23/2022  
**Alert**: - Certificate will be expired on **23-03-2022**

# USER GUIDE

Please find the details of available SCV user guide below,,

|  |  |  |
| --- | --- | --- |
| **No** | **Application Name** | **Document name** |
| 1 | MHVIP | MH VIP Management Portal - User Guide\_v2.0.doc |

Table 20

## Accessing the Application

Users can access the application using the below URL

|  |  |  |
| --- | --- | --- |
| **No** | **Application Name** | **Application Production URL** |
| 1 | PDD Viewer | <http://pddviewer.mas.net/pddviewer/> |
| 2 | RTMM | <http://scv.mas.net/SCV_APP/> |
| 3 | MHVIP | http://mhvip.mas.net/mhvip/ |

Table 21

# CONTRACT MANAGEMENT

The contracts signed between MAB and ATOS on SCV are,

|  |  |  |
| --- | --- | --- |
| No. | **Contract** | **Parties** |
| 1. | Service contract for AMS support service. | Signed between MAB and ATOS |

Table 22

# HANDOVER ITEMS

The following documents/items will be handed over to Operations together with this System Operation Document during the Handover session:

1. Technical Design Document
2. Test Plan

# INFORMATION SECURITY

## Audit and Compliance Requirements

The below table provide details on audit and compliance requirements

|  |  |  |
| --- | --- | --- |
| **Activity** | **Frequency** | **Responsible Party** |
| Perform ID review every quarter and submit result to IRS | Quarterly | ID Admin |
| Update user access matrix and submit to IRS | Yearly | System Owner |
| Install Critical Security Patches for the application and submit report to IRS | Quarterly | System Owner |
| Performed Backup restoration | Yearly | System Owner |

Table 23

## Password Policy Compliance

The SCV password policy compliance are added below,

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **No.** | **Password Policy Requirements** | **Yes** | **No** | **Remarks** |
|  | Password length at least 8 characters (minimum) | Yes |  | Uses LDAP authentication for login |
|  | Alphanumeric | Yes |  |  |
|  | Change temporary password at first logon | Yes |  |  |
|  | Password expiry = 90 days (maximum) | Yes |  |  |
|  | Password reuse generation = 5 (minimum) | Yes |  |  |
|  | Account lock out after 5 failed login attempts | Yes |  |  |
|  | Application shall disconnect or suspend inactive sessions= 15 Minutes | Yes |  |  |
|  | Wrong password shall be recorded in an audit log | Yes |  |  |

Table 24

# DOCUMENTATION AND REFERENCES

The SCV documentation details are added below,

| **No.** | **Document** | **Location and reference** |
| --- | --- | --- |
| 1. | System Operation Document | [https://mabitdept.sharepoint.com/sites/MyPulse/InformationTechnology/ServiceDeliveryManagement/](https://mabitdept.sharepoint.com/sites/MyPulse/InformationTechnology/ServiceDeliveryManagement) |
| 2. | Interface Control Document | [https://mabitdept.sharepoint.com/sites/MyPulse/InformationTechnology/ServiceDeliveryManagement/](https://mabitdept.sharepoint.com/sites/MyPulse/InformationTechnology/ServiceDeliveryManagement) |
| 3. | User Guide | [https://mabitdept.sharepoint.com/sites/MyPulse/InformationTechnology/ServiceDeliveryManagement/](https://mabitdept.sharepoint.com/sites/MyPulse/InformationTechnology/ServiceDeliveryManagement) |

Table 25

# AppendiX

1. **DR PROCEDURE**
   1. **Roles and Responsibilities**

The SCV related roles and their responsibilities are added in below table.

| **Role** | **Responsibilities** |
| --- | --- |
| MAB IT Helpdesk | * As single point of contact to coordinate when SCV problems occurred. |
| SCV Application Administrator  (Infra) | * Responsible for identifying failed resources in Main site or disaster site. * Responsible for following DR procedures to activate SCV DR procedure for disaster recovery * Responsible for maintaining DR site systems in the event of disaster * Responsible for backup and recovery SCV systems in the event of disaster. |
| SCV Application Support  (AMS) | * Responsible to support System Administrator during the disaster recovery process. * Responsible to verify SCV has been successfully switched to the DR site and vice-versa after reverting to the normal production state. |
| Oracle Database Administrator  (Infra) | * Responsible to support SCV Application Administrator during the disaster recovery process. * Responsible to verify SCV Oracle has been successfully switched to the DR site and vice-versa after reverting to the normal production state. |
| DNS Administrator  (Infra) | * Responsible to support SCV Application Administrator during the disaster recovery process. * Responsible to change the DNS for SCV upon switching to DR and vice-versa after reverting to the normal production state. |
| Tivoli Administrator  (Infra) | * Responsible to support SCV Application Administrator during the disaster recovery process. * Responsible to ensure SCV is monitored. (if Tivoli monitoring @CX2 is still available) |
| SCV User Support  (FRA) | * Responsible to organize end-users during the switching of SCV PROD to SCV DR and vice-versa. * Responsible to validate business transaction and data in SCV DR during the disaster and SCV PROD after reverting to actual production site. |

Table 26

* 1. **Disaster Recovery Procedure**

In the event of a disaster or service is unavailable for an estimated period longer than BCD requirement, the following activities will be activated:

| **Step** | **Procedure** | **Responsible** |
| --- | --- | --- |
| 1 | Inform all party concern on switching to DR. If this is a planned activity, inform via e-mail, otherwise via phone call and e-mail. | * Midrange SDM * SCV Application Administrator |
| 2 | Verify Production DB and APP servers in MASG/CX2 still accessible / running. | * SCV Application Administrator * Infra-Database |
| 3 | Shutdown Production Application in MASG/CX2 | * SCV Application Administrator |
| 4 | Failover database from MASG/CX2 to MAHK/ICITY (Production to DR) | * Infra-Database |
| 5 | Change DNS to point DR server  flightdisrupt.mas.net  flightinfo.mas.net  1scvdb.mas.net  scv.mas.net | * Infra-Midrange * SCV Application Administrator |
| 6 | Change mhselfservice.malaysiaairlines.com DNS to point DR server in Akamai | * Infra-Midrange |
| 7 | Mount file systems in DR application servers  Mount file systems in DR web servers | * Infra-Midrange |
| 8 | Start tomcat application and apache web server in DR | * Infra-Midrange |
| 9 | Verification | * SCV Application Administrator |
| 10 | Request Key Users to verify and confirm SCV application is running smoothly in MAHK/ICITY | * SCV User Support Team |
| 11 | Officially broadcast to BU and relevant support via e-mail that SCV is now on DR (MAHK/ICITY) | * SCV Application Administrator |
| 12 | Take daily full RMAN backup if the system’s in DR site has operated more than 2 days (if the servers in PROD site in MASG/CX2 are not available/not accessible) | * SCV Application Administrator * DBA |

Table 27

* 1. **Reverting from Disaster Recovery site (MAHK/ICITY) to Production Site (MASG/CX2)**

Once the Production site and SCV servers in MASG/CX2 are available for reverting from DR site (MAHK/ICITY), the following procedures will apply.

***Note***: Once the Production site and SCV servers in MASG/CX2 are available, start the DB replication from SCV DR (MAHK/ICITY) to SCV PROD (MASG/CX2). This is to minimize the RPO i.e. time taken to revert and recover data from DR.

| **Step** | **Procedure** | **Responsible** |
| --- | --- | --- |
| 1 | Inform all party concern on switching back to PROD in MASG/CX2. This should be a planned activity, inform via e-mail. | * Mid-range SDM * SCV Application Administrator |
| 2 | Shutdown DR Application in MAHK/ICITY | * SCV Application Administrator |
| 3 | Switch over database from MAHK/ICITY to MASG/CX2 (DR to Production) | * Infra-Database |
| 5 | Change DNS to point Production server   * flightdisrupt.mas.net * flightinfo.mas.net * 1scvdb.mas.net * scv.mas.net | * Infra-Midrange * SCV Application Administrator |
| 6 | Change mhselfservice.malaysiaairlines.com DNS to point DR server in Akamai | * Infra-Midrange |
| 7 | Mount application file systems in DR APP server  Mount application file systems in DR Web server | * Infra-Midrange |
| 8 | Start application in Production | * SCV Application Administrator * Infra-Midrange |
| 9 | Verification | * SCV Application Administrator |
| 10 | Request Key Users to verify and confirm SCV application is running smoothly in MASG/CX2 | * SCV User Support Team |
| 11 | Officially broadcast to BU and relevant support via e-mail that SCV is now on Production (MASG/CX2). | * SCV Application Administrator |
| 12 | Enable DB replication from MASG/CX2 to MAHK/ICITY (Production to DR) | * SCV Application Administrator * DBA |
| 13 | Unmount application filesystems in DR APP server  Un-mount application file systems in DR Web Server | * Infra-Midrange |

Table 28

**

**RELEASE MANAGEMENT REPORT**

The SCV related changes raised are listed in the below table.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S.No.** | **Change Request** | **Implementation Date** | **Change Description** | **Document Version** |
| 1 | CHG0011703 | 20-12-2017 | Configuration changes for IATA Airport Code, Oracle Jobs & UTL\_MAIL sender address | 1.7 |
| 2 | CHG0012108 | 18-01-2018 | Enabling FDN to send notifications for flights having flight date b/w -72 Hrs to +72 Hrs | 1.8 |
| 3 | CHG0014774 | 24-04-2019 | decommission SCV - Pre Flight Email Blast Data | 1.9 |
| 4 | CHG0014347 | 25-04-2019 | MHVIP – Bug Fix - MHVIP Pops Out Error Screen on Clicking Send Mail Option | 1.9 |
| 5 | CHG0018147 | 13-05-2020 | RTMM - Configuring new SITA certificate for RTMM to SITA connection establishment. Note -Certificate will be Expire on 12-05-2021 | 2.1 |
| 6 | CHG0018365 | 18-06-2020 | FDN – Bug Fix - enable a regular date picker which works just fine for all browser versions. | 2.1 |
| 7 | CHG0016260 CHG0016263 CHG0016258 | 19-06-2020 | SCV UI & DB - decommission. SCV - SSCI Dashboard - decommission. SCV - CCM Email Notification - decommission.  (decommission of application code only,  not vm server) | 2.1 |
| 8 | CHG0018326 | 28-06-2020 | RTMM Server Restart  Cron JOB : Tomcat server on 28th of every month. [Production Servers] | 2.1 |
| 9 | CHG0019007 | 30-11-2020 | PDD Viewer - Application code/Configuration changes for Tomcat upgrade 9.0.36 | 2.1 |
| 10 | CHG0018998 | 05-11-2020 | (FSIS ) & (FDN) Application code/Configuration changes for Tomcat upgrade 9.0.36 | 2.1 |
| 11 | CHG0018889 | 11-11-2020 | SCV ( RTMM & SCVService) Application code/Configuration changes for Tomcat upgrade 9.0.36 | 2.1 |
| 12 | CHG0019117 | 2020-11-30 | Migration of SCV DB from Oracle on-prem to PostgreSQL in Azure. | 2.2 |
| 13 | CHG0018517 | 2021-01-28 | SCV Migration to Cloud | 2.2 |
| 14 | CHG0020707 | 2021-04-01 | MH RBA Replica -- Rule ID field | 2.2 |

Table 29

**PATCH MANAGEMENT REPORT**

Application : \_\_\_\_\_\_NIL\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Owner **: \_\_\_\_\_\_NIL\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

|  |  |
| --- | --- |
| **Date** | **Patch / Service Pack Applied** |
| NIL | NIL |
|  |  |
|  |  |
|  |  |

Table 30

**Prepared By: Approved By:**

**.................................................... ....................................................**

**System Admin System Owner**

**BACKUP RESTORATION REPORT**

Application : \_\_\_\_\_\_NIL\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Owner **: \_\_\_\_\_\_NIL\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

|  |  |
| --- | --- |
| **Date** | **Status of Restoration** |
| **NIL** | **NIL** |
|  |  |
|  |  |
|  |  |

Table 31

**Prepared By: Approved By:**

**.................................................... ....................................................**

**Backup Admin System Owner**

**NON COMPLIANCE REPORT**

Application : \_\_\_\_\_NIL\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Owner **: \_\_\_\_\_NIL\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

|  |  |  |
| --- | --- | --- |
| **Date** | **Reference Number** | **Description** |
| **NIL** | **NIL** | **NIL** |
|  |  |  |
|  |  |  |
|  |  |  |

Table 32

**Prepared By: Approved By:**

**.................................................... ....................................................**

**System Admin System Owner**

**END OF DOCUMENT**