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MGM Resorts Inc.

Customer Value

Data Models & Operations

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# Document Information

|  |  |
| --- | --- |
| Original Author | Dustin Clifford |
| Last Updater | Dustin Clifford |
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| Approval Date | TBD |

# Database Information

## Summary

In this document we will describe the locations and file structures which should be used by Regional and Las Vegas customer valuation models to make Customer Value data available for consumption by the GSE. The calculations performed by Perpetual Offer Analytics will not covered in this document.

## Assumptions

* Customer Value data will be placed into CSV files for GSE processes to process.
* Regional and Las Vegas teams will place their customer value data into comma-separated value (CSV) files that will be consumed by Perpetual Offer input processes.
* The Information Management team shall be capable of reproducing the latest Customer Valuation CSV files if needed when needed.
* Information Management, Regional Enterprise Analytics and Las Vegas Enterprise Analytics will be responsible for delivering the CSV to the appropriate locations.
* Time between processing files will be, at least, six hours.

# Customer Value Specifications

## Customer Valuation Communication Details

### Las Vegas

#### Information

|  |  |
| --- | --- |
| Upload File Information | |
| Type | Comma separated value file |
| Location | Microsoft Azure Blob Store |
| Owner | Calvin Chan, Sean Xu |
| Process | Currently, the model for processing customer value for Las Vegas is performed partly in our SuperDay data-center and some processing is performed in AWS.  The final processing by the model is done in SuperDay data-center. Once this is complete, the CVS will be uploaded to the Azure Blob Store.  Upon file upload, Azure Data Factory (ADF) will detect the new file, parse the file and put the resulting Customer Valuations onto the Data Pipeline.  The ADF will also move processed files into an archive folder. The number of archived files will be configurable. The archive files can be used to troubleshoot and/or recover from any problems.  Information Management will, also, be able to reproduce the latest file on demand should there be a need to recover customer values quickly. |

#### SpecificationS

##### CVS File Processing & Locations

###### Customer Valuation Input File Process

Customer Value will be presented for deliver to the customer by creating a CSV file. This file will be created by the processes of the Information Management team and uploaded to the appropriate place in the Azure Blob Store.

Once in the Blob Store, Azure Data Factory will detect the presence of a new file in the landing location. Azure Data Factory will then kick-off an Apache Spark process (Kafka Producer) that will place the Customer Valuations onto the Data Pipeline. The Kafka Consumer will then make the Customer Valuation available for consumption by MGM systems interested in Customer Valuation via the Customer Value Service.

A screenshot of a video game

Description generated with high confidence

Figure - Las Vegas Customer Valuation Input Flow

###### CSV File Structure

The Las Vegas CVS file structure is simple and described below.

Figure - Las Vegas CSV Entry

|  |  |  |  |
| --- | --- | --- | --- |
| Record Position | Field Name | Field Format | Column Description |
| 1 | CCID | NUMBER | The Corporate Customer ID is a correlation ID used across MGM systems. This value can have multiple associated MLife Numbers. |
| 2 | MLIFE\_NUMBER | NUMBER | The MLife number for the customer whose value we are expressing. |
| 3 | PROPERTY\_ID | NUMBER | The Opera property ID of the property to which this value is applicable. |
| 4 | DATE\_CALC | TIMESTAMP WITH TIMEZONE | The time at which this value was calculated. This field will be used to determine which customer values have been inserted since customer values were last processed by the GSE. |
| 5 | DOMINANT\_PLAY | VARCHAR | Dominant Play is an indicator of the customers preferred play. This is used to determine which Booking Limits should be applied to the customer.  Supported Values:   * SLOTS: Slots is this customers dominant play * POKER: Poker is this customers dominant play * TABLE: This customer prefers to play table games * GENERAL: The valuation for this customer does not consider gaming |
| 6 | SEGMENT | NUMBER | This number indicates the bucket into which a customer will fall during pricing. Currently, this will be a number from 1 to 45. |
| 7 | ROOM\_ALLOWANCE | NUMBER(8,2) | The room allowance given to the customer at this property. This amount will be deducted from the room cost. If this is greater than or equal to the room cost, the room will be a COMP. If it is not, the room cost will be the greater of the room floor or the room cost minus the room allowance. |
| 8 | CARD\_TIER | VARCHAR | The card tier for this customer.  Values:   * SAPPHIRE * GOLD * NOIR * PEARL * PLATINUM |
| 9 | FREE\_PLAY\_AMOUNT | NUMBER | The amount of FreePlay that will be available to the customer when they book using Perpetual Offer. |
| 10 | RESORT\_CREDIT\_AMOUNT | NUMBER | The amount of ResortCredit available to the customer if they book using Perpetual Offer. |

###### CSV File Upload, Naming & Access

See the below table for information on where to place the file and naming conventions for those files.

Table - Las Vegas CSV File Parameters

|  |  |
| --- | --- |
| Category | Value |
| File Type | comma-separated value |
| Field Separator | comma(‘,’) |
| File Naming Template | lv\_<YYYYMMddHHmmss>.csv |
| Min. Time Between Uploads | 6 hrs. |
| Blob Store Accounts | DEV: saedhdatadev  QA: saedhdataqa  PPROD: ???  PROD: saedhdataprod |
| Blob Store Input Location | <blob store account>/cvinpu/lv/ |
| Blob Store Archival | <blob store account>/cvinpu/lv/archive |

### Regionals

#### Information

|  |  |
| --- | --- |
| Database Information | |
| Type | Comma-separated value file |
| DataCenter | Microsoft Azure Blob Store |
| Owner | Sam Khan |
| Process | The calculations for the regional models are currently performed entirely within the SuperDay data-center. The resulting values will be put into a CSV file.  The CSV file will be into the Azure Blob Store. After this the Azure Data Factory (ADF) will process the records in the CSV and place the Customer Value records onto the Data Pipeline.  The ADF will ensure that processed files are archived appropriately. The number of files to be archived will be configurable. The archived files will be available for use in troubleshooting and/or recovery.  Information Management will, also, be able to reproduce the latest file on demand should there be a need to recover customer values quickly. |

#### Specifications

##### CVS File Processing & Locations

###### Customer Valuation Input File Process

Customer Value will be presented for deliver to the customer by creating a CSV file. This file will be created by the processes of the Information Management team and uploaded to the appropriate place in the Azure Blob Store.

Once in the Blob Store, Azure Data Factory will detect the presence of a new file in the landing location. Azure Data Factory will then kick-off an Apache Spark process (Kafka Producer) that will place the Customer Valuations onto the Data Pipeline. The Kafka Consumer will then make the Customer Valuation available for consumption by MGM systems interested in Customer Valuation via the Customer Value Service.

A screenshot of a video game

Description generated with high confidence

Figure 2 - Regional Customer Valuation Input Flow

|  |  |  |  |
| --- | --- | --- | --- |
| Record Index | Column Name | Column Type | Column Description |
| 1 | CCID | NUMBER | The Corporate Customer ID is a correlation ID used across MGM systems. This value can have multiple associated MLife Numbers. |
| 2 | MLIFE\_NUMBER | NUMBER | The MLife number for the customer whose value we are expressing. |
| 3 | PROPERTY\_ID | NUMBER | The Opera property ID of the property to which this value is applicable. |
| 4 | DATE\_CALC | TIMESTAMP WITH TIMEZONE | The time at which this value was calculated. This field will be used to determine which customer values have been inserted since customer values were last processed by the GSE. |
| 5 | DOMINANT\_PLAY | VARCHAR | Dominant Play is an indicator of the customers preferred play. This is used to determine which Booking Limits should be applied to the customer.  Supported Values:   * SLOTS: Slots is this customers dominant play * POKER: Poker is this customers dominant play * TABLE: This customer prefers to play table games * GENERAL: The valuation for this customer does not consider gaming |
| 6 | POWER\_RANK | NUMBER | This number indicates the rank of the customer to be used in matching programs during rank based pricing. |
| 7 | POWER\_VALUE | NUMBER | This is the value calculated by the regionals. This value is used by regionals in creating the POWER\_RANK. |
| 8 | CARD\_TIER | VARCHAR | The card tier for this customer.  Values:   * SAPPHIRE * GOLD * NOIR * PEARL * PLATINUM |

###### CSV File Upload, Naming & Access

See the below table for information on where to place the file and naming conventions for those files.

Table - Regional CSV File Parameters

|  |  |
| --- | --- |
| Category | Value |
| File Type | comma-separated value |
| Field Separator | comma(‘,’) |
| File Naming Template | rg\_<YYYYMMddHHmmss>.csv |
| Min. Time Between Uploads | 6hrs. |
| Blob Store Accounts | DEV: saedhdatadev  QA: saedhdataqa  PPROD: ???  PROD: saedhdataprod |
| Blob Store Input Location | <blob store account>/cvinpu/rg/ |
| Blob Store Archival | <blob store account>/cvinpu/rg/archive |

# Changelog

|  |  |  |
| --- | --- | --- |
| Changer | Date | Reason / Update Log |
| Dustin Clifford | 05/30/2018 | Initial creation |
| Dustin Clifford | 8/18/2018 | Changing the input process for Customer Valuations into a process using CSV and ADF that automates processing of Customer Valuations. |
| Dustin Clifford | 8/19/2018 | Making some further updates |

# Notes & Action Items

## Notes

* Currently the process allows for Information Management to control when files are processed.

## Action Items

* Look into support for GZip’d files in the Kafka Producer code [Pawan]