Clifford, Dustin

MGM International

Perpetual Offer

High Level Architecture & Design

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# Document Information

|  |  |
| --- | --- |
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# Project Information

## Summary

Perpetual Offer is designed to stimulate customer visitation and reduce friction in the booking process. This will be accomplished by creating offers that are always available to customers and provides those customers with rewards and credits according the value that they bring to MGM Resorts.

The end-result of this process will provide custom rates and resort credits to customers based on the amount a customer spends in gaming, shopping and other expenditures at MGM Resort properties. This value is based on a mathematical model and will be provided as a part of this project for use inside the Booking Engine.

The Booking Engine will take the values provided from this model and make them available on the customer profile. The room-allowance provided will be used to provide preferred rates or to comp rooms as appropriate based on the amount of the room-allowance. This project will also accommodate resort credits on the programs to which the customer value allows them access.

## Project Requirements

Table 1 – Requirements

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Req ID** | **Req Short Name** | **Req Description** | **Comment** | **Priority** |
| ***Data Source*** | | | | |
| 1 | Data/ Source | Advanced analytics will populate a database to be placed in SuperDay that will be referenced by the microservice. File will include Customer ID (CCID), Daily Room Allowance Amount, Freeplay Amount and Resort Credit Amount (for all customers at every LV property) and more [reference HLA]. File will be refreshed monthly at a minimum but microservice should be able to access and pull data on daily basis. | Trip-level Freeplay and Resort Credit is MVP; updated monthly at first, future ideal state enables assessment on daily basis; Freeplay and Resort Credit currently are tied to segment, by including an amount in the file provided, this gives ability to change way calculated in future |  |
| 2 | Regional vs. Vegas Customer Data | For a single customer, need to marry the Room Allowance, etc. provided by the Las Vegas team for all Las Vegas Properties with the Room Allowance, etc. provided by the Regional team for all Regional Properties  Scoring called “Power Ranks” (Regions) or “Segments” (LV) | All live M life gaming customers will be scored and provided with rates at all properties regardless of previous visitation; two different CVS ratings and two separate scores w/ different ‘segments/power ranks’ of ratings across properties |  |
| ***Rate Logic & Codes*** | | | | |
| 3 | Comp Cash Decision  “Segment based pricing” | IF Daily Room Allowance Amount >= Daily Leisure Package Rate, COMP IF Daily Room Allowance Amount < Daily Leisure Package Rate, PREFERRED CASH rate is difference between Package Rate and Allowance Amount  IF M life customer with no activity/score: use Tier Discount |  |  |
| 4 | Price buckets | Preferred Cash rate (Difference between Daily Room Allowance Amount and Daily Leisure Package Rate) will be calculated at an customer level, however logic is required to assign the customer to a banded Preferred Cash rate bucket | Revenue Management to provided banded price buckets; in an ideal state the Preferred Cash Rate will round to the nearest business rule (e.g., 99c) allowing prices/rate codes to be near continuous |  |
| 5 | Opera Rate Codes | The banded rate buckets (Preferred Cash Rate) will tie to a single rate code in Opera. Appropriate rate codes must be assigned to COMP as well. | Transfer rate (from Casino to Hotel) may be viewed as additional rate code |  |
| 6 | Patron Promo ID | To remove Patron Promo ID | To establish conventional naming system of offers to enable FP redemption in place; should not require new development, may require change management (TBD) |  |
| 7 | Floor Rate | Need to have configurable floor rates/logic such that despite the resulting calculation of a Preferred Cash Rate, customers will never be provided a rate below a certain minimum | Business to provide floor rates for all properties/room type/time of year/etc.;  This will reflect CASINO rate floor |  |
| 8 | Freeplay | Need to provide guest with Freelay amount on the screen along with booking calendar; Freeplay amount will be property specific; Freeplay will be clearly stored in itinerary, but still require visiting M life desk upon check-in to redeem | Freeplay offers to be created and redeemed in same way as today (MVP); ideal state goal to decouple Freeplay/allow for automatic upload upon check-in |  |
| 9 | Resort Credit | Need to provide guest with Resort Credit Amount on the screen along with booking calendar; Resort Credit amount will be property specific; Resort Credit will be displayed in itinerary | Resort Credit will operate same as current state (MVP) |  |
| ***Booking Limits (Value Restrictions)/Restrictions on Bookings*** | | | | |
| 10 | Comp Booking Limits | Comp max flexes by campaign segment and property; various booking limit types restrict comps (contiguous, weekly, etc) | Refer to spreadsheet for number of nights; number should be configurable |  |
| 11 | Preferred Rate Booking Limits | Preferred rate max flexes by campaign segment and property; various booking limit types restrict comps (contiguous, weekly, etc); no maximum nights by Tier | Refer to spreadsheet for number of nights; number should be configurable |  |
| 12 | Max night booking limits | No maximum on total number of bookings outside of standard booking limits (at some point, have to pay FIT rate) | Refer to spreadsheet for number of nights; number should be configurable |  |
| 13 | Limits on length bookings/time between bookings | Max # of days by property; 72 hours in-between stays for Las Vegas properties; regional will not have limits on time in-between bookings | Already available configuration – can refer to spreadsheet for specifics; number should be configurable |  |
| 14 | Cross-property regional booking limits | Property level booking limits will be changed to regional level booking limits | This will disallow customers’ ability to book simultaneous offers at LV properties for same (max) value |  |
| ***User Experience*** | | | | |
| 15 | Booking Portal | Need all booking portals (e.g., from a property website, from M life website) to have a similar look and feel for perpetual calendar |  |  |
| 16 | Calendar/ Property preference | The first booking screen that an individual sees should offer either a calendar for their chosen property or a grid like calendar of booking dates across properties for a region if a region was selected (e.g., all LV hotels vs. all Regionals) | TBD - Need to discuss, test and identify best presentation of properties or regional grids based on user use case (i.e. open question on if the user is logging in on a property website, should they see just property or also similar hotels listed?) |  |
| 17 | Cross Property Marketing | Need a way to promote cross property stays; provide a link/button/banner to "Book Las Vegas!" when a customer selects/views a regional property first; similarly, need for Vegas to Regional | TBD - Need to discuss, test and identify best presentation |  |
| 18 | M life login | Prompt M life login upon reaching booking screen |  |  |
| 19 | Credit Card Linkage | To enable easy booking, allow customers to access autofill credit card information in profile for booking |  |  |
| 20 | Calendar timeline | Booking options (and thus calendar capability) should extend out for up to 12 months | TBD - Need to discuss if this will work for the regionals as well; Borgata currently books out 90 days  Offers will only extend out 6 months |  |
| 21 | Length of stay | Calendar should not require a customer to select length of stay as a pre-requisite for viewing; should be able to flex length of stay within calendar |  |  |
| 22 | Property Selection | Need multiple ways to view properties and regions (e.g., Show single property, show all Vegas, show all regionals, show all - to flesh out options further) | Presentation will likely differ by website, TBD based on customer preferences (e.g., property may only show single property, then open up new window to M life booking if multiple properties desired) |  |
| 23 | Date Selection | Should allow customers to select specific dates or flexible dates i.e. view rates for a whole month; if customer has not selected any dates, start with today and show next 30 days |  |  |
| 24 | Room Selection | Should allow customers ability to see only specific types of rooms i.e. only suites | Not MVP, Future State | Future |
| 25 | Rate Information on calendar | Calendar should show room rate by date (CASH AMOUNT or COMP); must be able to flex rates dynamically/automatically based on number of dates selected (e.g.., once dates selected and booking limits met (for cash/comp limits), then M life discount rate populates rest of calendar and guest can book more nights at that rate) |  |  |
| 26 | Other Information on calendar (or on page) | Somewhere on calendar (UX TBD), an additional three numbers must be shown: 1) Free Play (must be able to flex by property) 2) Resort/F&B credit (must be able to flex by property) 3) Static offers (i.e., slot tournaments on certain dates for displayed properties) | TBD - Need to discuss, test and identify best presentation  Trip level Free Play and Resort Credit is MVP (will not change dynamically by date); future ideal state enables assessment on daily basis |  |
| 27 | Booking process | Once customer has selected room, carry on to current booking process we use today; must carry through all offers (Free Play, Resort Credit, static offers i.e. slot tournaments) on each page of booking process |  |  |
| 28 | One click booking option | Include ability for customer to select appropriate property, dates, and room type and then auto book with one click |  |  |
| ***Other*** | | | | |
| 29 | Agent Capability | Agents must be able to see same screens/calendars that customers are viewing so they can provide most helpful experience | Can use same rate code lookup tool that Borgata is currently using, until we can develop capability in ICE |  |
| 30 | Refresh | Must be able to refresh package rates and customer information (CCID, Room Allowance, etc.) multiple times per day |  |  |
| 31 | Credit card storage | To enable easy booking, allow customers to safely store credit card information in profile for booking |  |  |
| 32 | Free Play loading | Free Play should be automatically loaded onto M life cards upon check in (registered via patron system) |  |  |
| 33 | Global Opt Outs | Will build ‘flag’ into regional and LV CVS systems to prevent marketing offers going out to such individuals | Moves process ‘upstream’ |  |
| 34 | Dominant Property Sort Order | Future state – active M life members viewing multiple properties will view sort order of properties determined ‘dominant’ by their preferences (TBD algorithm) | *Out of scope for time being*: Corporate sort order to be used for MVP |  |
| 35 | Active M life Customer | Active customers defined as play within last 24 months regions, last 39 months in LV | OK with idea of customers being rated in LV but not regions |  |
| 36 | Non-M life Customer | Regular FIT rates and calendar rates - same as today |  |  |

## Project Assumptions

### Requirements Assumptions

* **FreePlay** will not be implemented until and unless a better way can be found to load the **FreePlay** to Patron. **Requirements:** [**Req8**](#Req8)**,** [**Req32**](#Req32)
* **GSE** does not and will not store customer payment information. Our understanding is that this is currently handled through Okta and this functionality will remain there. **Requirements:** [**Req19**](#Req19)
* No changes will be necessary for GSE to enable one-click booking option. **Requirements:** [**Req28**](#Req28)
* Global Opt-outs will not be a requirement for Customer Value as this will be pushed upstream. **Requirements:** [**Req33**](#Req33)
* This document only covers MVP functionality and a list of non-MVP functionality will be kept and prioritized later.
* Booking multiple rooms on Perpetual Offers (in one booking-flow) will not be part of the MVP. DMP will force user to go through the booking flow again to add another room.
* Perpetual Offers will always represent the best rate available to the customer.
* Multi-property pricing API will only be use for 7-days at a time.

# Architecture & Design

## Customer Value

A screenshot of a cell phone

Description generated with very high confidence

Figure 1 - Flow of Customer Value Data To UI Through Pricing

The above diagram illustrates how customer value data will flow into GSE. This data will then be used by the pricing logic to pick programs configured for Perpetual Offer to provide custom rates to the customer based on that value.

A data-pipeline will be created to pull the values from the Regional and Las Vegas valuation CSV files and place those values in a database. These values are then consumed by the CustomerValueService. CustomerService will put these values into the Customer Profile. From this profile, the value will be chosen based on property. The room-allowance will then be used to make the appropriate pricing decisions and return those prices to the UI.

**Requirements Covered:** [**Req1**](#Req1)**,** [**Req2**](#Req2)**,** [**Req27**](#Req27)**,** [**Req30**](#Req30)**, [Req35](#Req35)**

## Segment Based Pricing

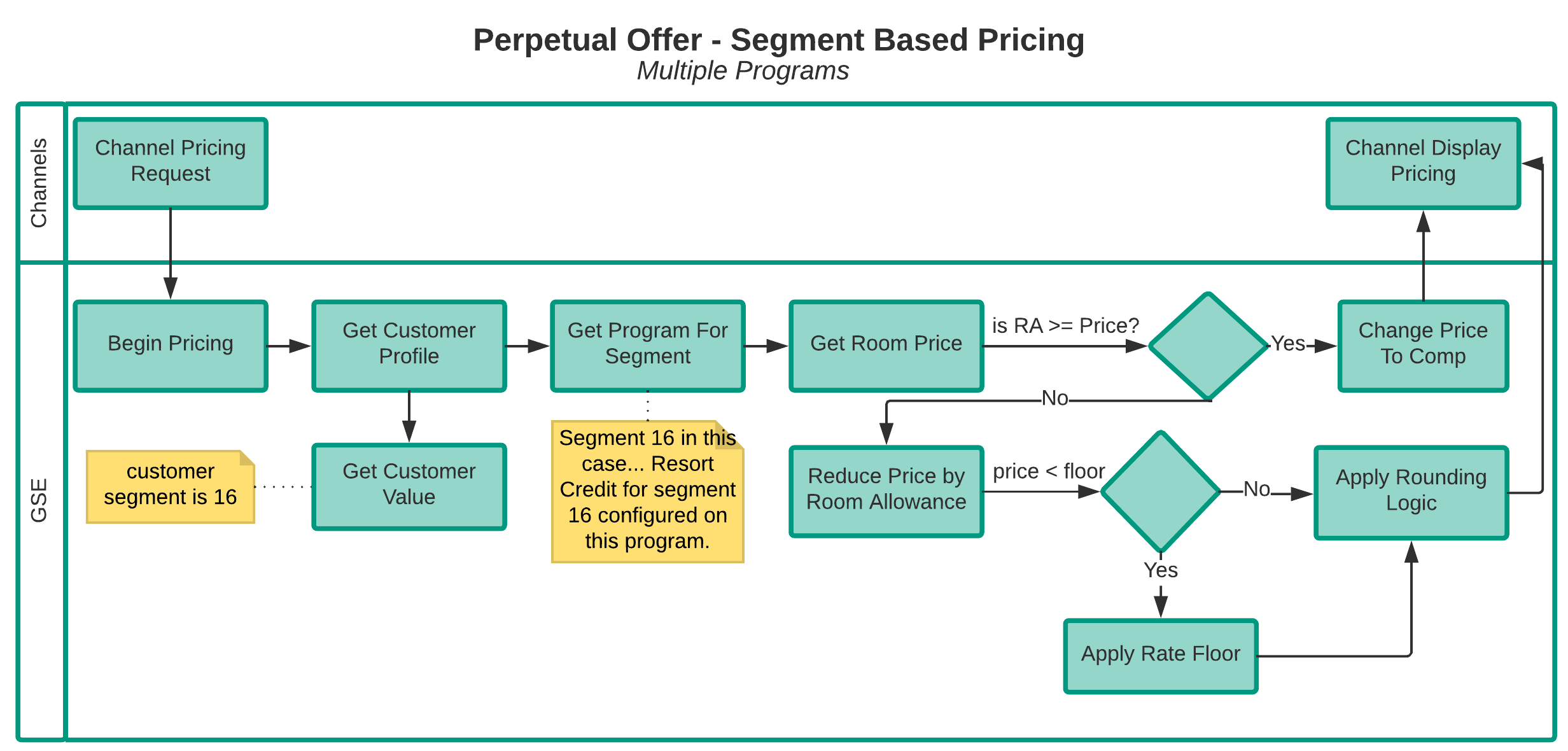


Figure 2 - Flow Diagram Showing How Perpetual Offers Use Customer Value

Pricing will now use the customer segment to pick a Perpetual Offer appropriate for the customer. This program will initially price the room based on the assigned Rate Table. If the room-allowance is greater-than or equal-to the room price, the customer will be given a COMP. If not, the price of the room will be reduced by the amount of the Room Allowance (configured rounding will be applied). If the resulting room-price is below the configured Casino Rate-Floor, the rate floor will be returned. Resort credit will be assigned based on the configured routing on the program.

Pricing call will, also, need to include a flag to indicate that the pricing results includes prices (comp or preferred) from a segment-based program. This will give channels the ability to know whether the customer will be receiving ResortCredit and FreePlay associated with the program. Also, the FreePlay amount and ResortCredit amount should be return in the response when a **Segment Based Pricing** amount is returned.

Revenue will generate programs from an offer matrix created based on customer valuation. This will allow for variation of ResortCredit for periods to increase occupancy or for other seasonal reasons. Only one segment program will be active at any given time.

Booking Limits will be applied during this process and preferred rates and comps will only be applied if allowed based on that configuration. As a part of this, Booking Limits will be updated to support configurations and restrictions at the regional level.

In addition, pricing will now need to support an API to provide a list of properties that should be priced for. This pricing will be limited to a configurable limit on the number of days that can be priced for list of properties. This configurable number of days will be 7-days at the start.

**Requirements Covered:** [**Req3**](#Req3)**,** [**Req4**](#Req4)**,** [**Req7**](#Req7)**,** [**Req9**](#Req9)**,** [**Req10**](#Req10)**,** [**Req11**](#Req11)**,** [**Req12**](#Req12)**,** [**Req13**](#Req13)**,** [**Req14**](#Req14)**, [Req36](#Req36)**

# Booking Limits

Booking Limits will be used to restrict the number of COMP and preferred rates a customer can utilized before falling back to prevailing rates and/or tier discounts. These Booking Limits will be configurable at the regional level.

Booking Limits will now be enforced at the regional level. The regional Booking Limits will consider all reservations made at properties within the region like they are, currently, at the property level. Property level Booking Limits will no longer be available but behavior will be the same at regionals as most regionals exist within their own region.

Table 2 - Booking Limits

|  |  |
| --- | --- |
| Booking Limit Config Item | Description |
| Comp Max | The maximum number of COMPs that a customer will be allowed to use in a given week of the year (Sunday-Saturday). |
| Rate Max | The maximum number of preferred rates that a customer will be allowed to use in a given week of the year (Sunday-Saturday). |
| Tier Discount Max (NEW) | The maximum number of tier rates that will be made available to a customer in a trip before prevailing rates are applied. |
| Weekly Limit | The total number of COMPS and preferred rates that will be offered to a customer during a given week of the year (Sunday-Saturday). |
| Daily Limit | The total number of either COMP or preferred rates that a customer may consume per day. This limitation will apply when a customer is booking multiple rooms on any given day of the stay (e.g. booking a room for another guest). |
| Booking Window Comp Max | The total number of COMPs that a customer will be allowed to use during the booking window. |
| Comp Max Contig | Limits the number of consecutive COMPs that are contiguous to each other. For example, a customer might be able to book 3 COMPs (weekly limit) but only allowed to use 2 (max contig) before having to pay a preferred rate or prevailing rate in order to gain access to the third COMP. |
| Booking Window Rate Max | The maximum number of preferred rates available to customer in the booking window. |
| Days Between Trips (NEW) | Restricts the number of days between trips before the benefits of Perpetual Offers can again be used. |

All other Booking Limits configurations that are in the current implementation for regionals will be available for use: including configuration of **Look-Back** and **Booking Window**.

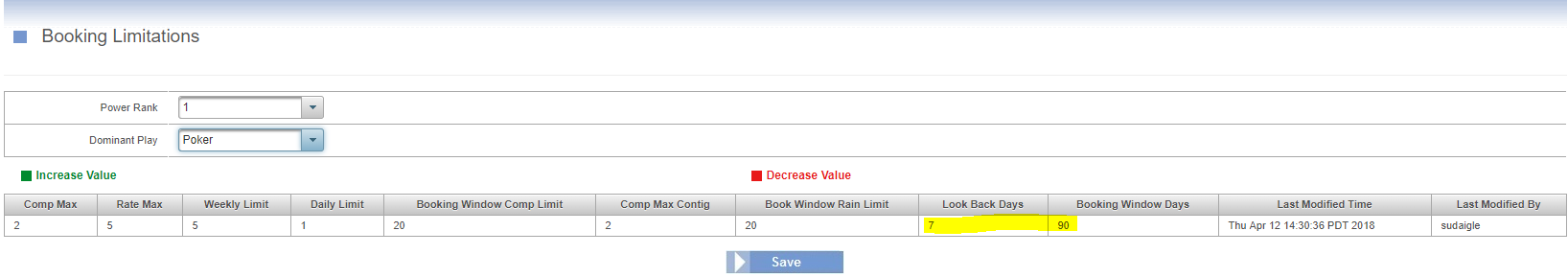


Figure 3 - Current Booking Limits Fields

## Data Pipeline

A screenshot of a cell phone

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Figure 4 - Data Pipeline Component Flow

The Data Pipeline will serve the purpose of extracting the Customer Valuations from comma-separated value (CSV) files created during the analytics process. For this project, the pipeline will pull data from the Regional and Las Vegas CSV files and transfer this information to **CustomerValueService**.

The CSV file specifications are shown below.

### Las Vegas

#### Information

Table 3 – Las Vegas Valuation Input Information

|  |  |
| --- | --- |
| Input Information | |
| Type | Comma-separated Value File |
| DataCenter | SuperDay |
| 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. |

#### CSV Input File Process and Locations

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 5 – Las Vegas Customer Valuation Input Flow

#### CSV Input File Process and Locations

Table 4 - Las Vegas Valuation Schema Description

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Record Position | Column Name | | Column Type | | Column Description | |
| 1 | MLIFE\_NUMBER | | NUMBER | | The MLife number for the customer whose value we are expressing.  This value is not required to be present (so we can still store value for customers not enrolled in MLife) but should be set to -1 in this case. | |
| 2 | PROPERTY\_ID | | NUMBER | | The Opera property ID of the property to which this value is applicable. | |
| 3 | 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. | |
| 4 | 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 | |
| 5 | 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. | |
| 6 | 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. | |
| 7 | CARD\_TIER | | VARCHAR | | The card tier for this customer.  3Values:   * SAPPHIRE * GOLD * NOIR * PEARL * PLATINUM | |
| 8 | FREE\_PLAY\_AMOUNT | | NUMBER | | The amount of FreePlay that will be available to the customer when they book using Perpetual Offer. | |
| 9 | RESORT\_CREDIT\_AMOUNT | | NUMBER | | The amount of ResortCredit available to the customer if they book using Perpetual Offer. | |

### Regionals

#### Information

Table 5 - Regional Valuation Database Information

|  |  |
| --- | --- |
| Database Information | |
| Type | Comma-separated Value File |
| DataCenter | SuperDay |
| 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. |

#### CSV Input

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 6 - Regional Customer Valuation Input Flow

#### CSV Specification

Table 6 - Regional Valuation Schema Description

|  |  |  |
| --- | --- | --- |
| Column Name | Column Type | Column Description |
| CCID | NUMBER | The Corporate Customer ID is a correlation ID used across MGM systems. This value can have multiple associated MLife Numbers. |
| MLIFE\_NUMBER | NUMBER | The MLife number for the customer whose value we are expressing.  This value is not required to be present (so we can still store value for customers not enrolled in MLife) but should be set to -1 in this case. |
| PROPERTY\_ID | NUMBER | The Opera property ID of the property to which this value is applicable. |
| 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. |
| 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 |
| POWER\_RANK | NUMBER | This number indicates the rank of the customer to be used in matching programs during rank based pricing. |
| POWER\_VALUE | NUMBER | This is the value calculated by the regionals. This value is used by regionals in creating the POWER\_RANK. |
| CARD\_TIER | VARCHAR | The card tier for this customer.  Values:   * SAPPHIRE * GOLD * NOIR * PEARL * PLATINUM |

In the future, this pipeline can and will be used to take information like this and update other destinations like Patron, Opera and more.

**Requirements Covered:** [**Req1**](#Req1)**,** [**Req2**](#Req2)

# Product Updates

## Platform Updates

### TPS

* Booking Limits
  + Add **Segment From** and **Segment To** to Booking Limits.
  + Booking Limits to be configured at the regional level.
  + Add concepts of Tier Discount Max and Days Between Trips restrictions to Booking Limits at both property and regional levels. Apply these to restrictions when pricing. Track Tiered Discounts in Booking Limits Restrictor.
  + Booking Limits will need to consider “Saved” reservations along with “Booked” reservations.
* Property
  + Add concept of region to RDC domain objects.
* Program
  + Add configuration for **Segment From** and **Segment To**. Rank cannot be set in the case that these are set.
* Pricing
  + Add concept of Segment Based pricing
    - Choose programs based on customer segment
      * Program will have a **Segment From** and **Segment To** and a customer should only be priced in the program if their
    - Use room-allowance to price customer trips (effectively the reverse of current cash/comp logic)
      * If room-allowance is greater-than or equal-to price (and comp wouldn’t go over regional or property booking limits), comp room.
      * If room-allowance is less than price and Booking Limits allows Preferred Pricing, reduce price by room-allowance.
      * If neither comp or preferred pricing can be applied and Booking Limits allows for additional Tiered Discounts, apply Tiered Discount.
      * Ensure that rounding and rate-floor logic is applied for both Preferred Price or Tier Discount.
    - Update pricing response with new fields
      * FreePlay amount
      * ResortCredit amount
  + Add the ability to get pricing for multiple properties via a new API call
* Booking
  + Update reservation will need to include a call to Booking Limits to ensure that customer’s cannot abuse Perpetual Offer.
* Itinerary
  + Add FreePlay and ResortCredit to itinerary response.
  + Add a new state “auto-saved” to indicate reservations which were created by channels to ensure customers can’t abuse Booking Limits and get more out of their Perpetual Offer than intended.

### Customer Service

* Update Customer Service to call out for Customer Value when profile is retrieved. Do not make the call for Transient Customers.
* Update Customer Service to contain a cache of Customer Value that has a Time-To-Live to ensure pricing after initial call.

### Phoenix Bridge Service (PBS)

* Property
  + Update RDC/RDS Property with region as stored in Phoenix

### RDS / RDC

* Booking Limits
  + Add Segment to Booking Limits.
  + Add Region to Booking Limits.
  + Add Tier Discount Max to Booking Limits.
  + Add Days Between Trips to Booking Limits.
* Property
  + Add Region to Property configuration
* Program
  + Add Segment From to Program.
  + Add Segment To to Program.

### EBS

* Perform updates to EBS to accommodate changes made to Property.
* Perform updates to EBS to accommodate changes made to Program.

### Customer Value Service **(New)**

* Introduce API Gateway to control / throttle access to **CustomerValueService**.
* Create new environments for development, CI/CD, QA, CI/CD and production deployments.
* Create new Customer Value Service
  + Las Vegas
    - Values Stored
      * CCID
      * MLifeId
      * DominantPlay
      * PropertyId
      * Customer Segment
      * RoomAllowance
      * FreePlay Amount
      * ResortCredit Amount
      * Card Tier
  + Regionals
    - Values Stored
      * CCID
      * MLifeId
      * DominantPlay
      * PropertyId
      * PowerRank
      * PowerValue
      * Card Tier
* Searchable by
  + MLifeId (returns all values for customer)
* Will be designed for inclusion of additional customer information and values in the future.

## Common Services Updates

* Data Pipeline
  + Create processes to extract Las Vegas values from database and send to be processed to the appropriate consumers. A similar process will be in place for regional customer values.
  + Create messaging or other mechanism which allows values to sent to any consumers who may need the data.
  + Create consumers process to update locations that need the Customer Value information.
  + Should be designed to be extensible for new consumers and customer information/values in the future.
  + Ensure that file input kicks-off when Information Management uploads a file
  + Archive input files to allow for re-processing, if needed, and troubleshooting
    - Archives will have a configurable period to ensure that we don’t keep files forever but do have enough in the archive to troubleshoot issues.

## Admin Updates

### Mystique

* Regions
  + Add a Regions Administration to General Administration.
  + Add Regions drop-down to Regional Booking Limits Administration.
* Booking Limits
  + Add Segment configuration to Booking Limits.
  + Allow Booking Limits to be configured at the Regional Administration level.
  + Add Max Tier Discount configuration to Booking Limits.
  + Add Days Between Trips configuration to Booking Limits.

# Operational Updates

* Property
  + Properties will need to be assigned to the appropriate Region
* Program
  + Programs will need to be configured with the appropriate Segment(s) to be considered for Perpetual Offer pricing.
  + Programs will need to be configured with an always active COMP pricing rule and Preferred Rate Cash pricing rule.
  + Programs and rate tables will be configured with appropriate routing to enable Resort Credits as usual.
* Region
  + Booking Limits will now have additional configuration at the Region level for each segment and Dominant Play.

# ChangeLog

|  |  |  |
| --- | --- | --- |
| Changer | Date | Reason / Update Log |
| Dustin Clifford | 05/18/2018 | Initial creation |
| Dustin Clifford | 05/19/2018 | Adding in high-level architecture, design, requirements, etc. |
| Dustin Clifford | 05/20/2018 | Adding in product updates & operational updates. And… some other changes. |
| Dustin Clifford | 05/21/2018 | Updating Admin section to reflect the suggested updates from Admin team. |
| Dustin Clifford | 5/31/2018 | Updated rate-floor verbiage to ensure that casino rate-floor is what is used during segment-based pricing.  Added updated database location and schema information as approved during today’s meeting.  Also, some additional formatting was done.  Added Booking Limits section and associated fields and descriptions.  Document now updated to 1.0-RC. |
| Dustin Clifford | 6/1/2018 | Clarified the items that will be stored as a part of customer value.  Updated Figure 1 to reflect that CustomerValueService will be in the cloud. |
| Dustin Clifford | 6/12/2018 | Added assumption that best rate will always be the best rate. |
| Dustin Clifford | 6/14/2018 | Updated data-pipeline flow and data flow.  Updated regional and LV input schemas. |
| Dustin Clifford | 6/22/2018 | * Updated pricing section to include some notes on how operations will configure programs. * Update pricing section to include the need for a flag to indicate whether the pricing result includes pricing from **Segment Based Pricing** for use by channels in displaying appropriate information regarding offers available to the customer. |
| Dustin Clifford | 6/29/2018 | * Updated requirements * Updated links to requirements to reflect requirement number changes * Updated to include a new API for multi-property pricing. |
| Dustin Clifford | 7/30/2018 | * Updating pricing descriptions to include new multi-property pricing. * Updating pricing description to include the return of FreePlay and ResortCredit amounts. * Changing DC from SuperTrip to SuperDay as Sam Khan informed me that the name has been changed. |
| Dustin Clifford | 8/20/2018 | * Updating the input flow and file types to reflect new automated input flows from Information Management. * Added the need to check BookingLimits to booking flow. * Added checking booking-limits during reservation flow to prevent abuse of Perpetual Offer. * Change some wording to reflect that Customer Valuations will come from CSV files in a semi-automated process. |