



**VIX**  
RESOURCES

**Room Optimisation**

25 June 2020

# Room Optimisation

## The Problem

A problem that mining companies and contractors face when it comes to increasing the numbers of people onsite is that oftentimes, while there are rooms with a few days of vacancy at a time, these little pockets of availability are not long enough to accommodate new bookings. We call this phenomenon room availability fragmentation.

The challenge is how to ensure the optimal utilisation of rooms based on the existing bookings in the future.

## The Solution

For many clients, a campsite's accommodation or parts of the campsite's accommodation, are operated on a hoteling basis, with no or few employees owning rooms on a permanent basis. In these scenarios, the Vix Resources Room Optimiser can be used to automatically, and transparently, reshuffle room bookings to minimise fragmentation, therefore freeing up rooms to accommodate additional bookings. Even if you have parts of your campsite accommodation that are used predominantly for staff who permanently own their rooms, you can still take advantage of the Room Optimiser for other parts of your accommodation inventory.

When reshuffling your room bookings, the Room Optimiser is mindful of your cleaning preferences and will observe any configured grace periods.

## Key Terms

- **Rooms to Optimise:** A collection of rooms that have been selected to optimise
- **Grace Period:** The number of days that must exist between room bookings to ensure that the cleaners have enough time to clean the rooms between guests
- **Optimise Start Date:** The date at which a room can be optimised from; this needs to consider current guests as well as any grace periods
- **Last Occupied Date:** The date (Night) the room was last occupied
- **Next Occupied Date:** The date the room will be used next
- **Bookings to Optimise:** A collection of room bookings for the Rooms To Optimise that exist in the room after the Optimise Start Date
- **Room Shuffle:** Shuffle bookings into less used rooms so wear and tear is evenly distributed. bookings
- **Join Split Bookings:** identify and resolve split bookings for guests in order to minimize room moves during a stay

## The Outcome

### Before Optimisation

Room #	Day										
	1	2	3	4	5	6	7	8	9	10	11
1	P1	P1	P1								
2					P6	P6	P5	P5	P5	P5	P5
3			P3	P3	P3	P3					
4				P2	P2						
5					P4						
6	RO	RO	RO	RO					RO	RO	RO

### After Optimisation

Room #	Day										
	1	2	3	4	5	6	7	8	9	10	11
1	P1	P1	P1	P2	P2		P5	P5	P5	P5	P5
2											
3			P3	P3	P3	P3					
4											
5					P4						
6	RO	RO	RO	RO	P6	P6			RO	RO	RO

Legend: P1, 2, 3,4, 5, 6 = People that have bookings in rooms.

RO = Permanent Room Owner which Hotel ticked on their profile – this means their room can be used when they are off site on RR.

Before Optimisation all rooms are occupied. However, after the optimiser has been turned on rooms 2 and 4 are completely freed up and are now available for bookings.

What makes the optimiser so fantastic is that it maximises return on investment for accommodation within the limitations of room ownership, back-to-back rosters and cleaning capabilities. With the Optimiser, you can rest assured that you are utilising all accommodation in the most efficient manner.

# Room Shuffling

The optimiser "fills in the holes" between existing bookings. It will tend to add more bookings to rooms that have future bookings in preference to rooms that don't. Rooms that are in use will tend to stay in use, new rooms will tend to come in and go out of service slowly which may distribute wear and tear unevenly.

The Room Shuffle features aim is to utilise spare rooms more evenly by randomly shuffling the rooms available for movable bookings so that rarely used rooms get brought into use more often. Prior to optimisation, all available rooms will have all of their future bookings moved to another randomly selected room of the same room type and then optimisation will continue as previously stated.

The parameter OptimiseRoomShuffle, when enabled, will get a list of all rooms without immovable bookings.

1. For each room, select a candidate room at random from the room shuffle list that has not already been taken as a candidate for another room.
2. If there is no candidate available, then the room will not be shuffled and is removed as a candidate by setting it as its own confirmed candidate and removing it as the candidate of any other room.
3. Promote candidate rooms to the new room column to confirm the shuffle.
4. Move all future bookings from the initial room to the new room.
5. Continue with optimisation.

## Resolving Split Bookings

The SAM room optimiser attempts to identify and resolve split bookings for guests in order to minimize room moves. In addition to improved guest satisfaction this also directly reduces cleaning costs. Standard room optimisation is completed first to ensure the maximum availability of rooms before attempting to resolve split bookings.

### What is a split booking?

In its most simplistic form, a split booking is a continuous booking that spans more than one room. There are however many nuances to bookings and a more complete definition is:

*An accommodation booking is a split booking if the next or previous accommodation booking is contiguous, is in the same camp, and there is no travel between the two accommodation bookings.*

The Split Bookings Report shows the list of split bookings using this definition, hence, to check the split bookings that will be resolved by the night audit process we can run the report before the process starts.

Rooms that were updated by the fix split booking process are marked with reason "Split Booking Optimiser-Temporary Assign Room" in the Room Audit allowing easy identification.

## Fixing split bookings before guest arrival

Ideally, as many split bookings as possible should be resolved prior to guest arrival. This is achieved by trying to merge as many of the first N splits as possible into a continuous room booking. The room selection for fixing split booking prefers another vacant room that matches the split booking period and was occupied the day before/after the split booking period, if none is found it will prefer the RHS room, if RHS is not available it will prefer the LHS room.

The table below provides examples of 3 split bookings for two guests that have not yet arrived. For the purpose of the example, the @OptimiseFromDate is '29/10/2020'.

ID	FirstName	FirstNight_Room1	LastNight_Room1	RoomNumber_1	FirstNight_Room2	LastNight_Room2	RoomNumber_2
92553	Patrick	22/11/2020	22/11/2020	L065a	23/11/2020	5/12/2020	L032a
110392	John	6/12/2020	7/12/2020	P015b	8/12/2020	12/12/2020	P030b
110392	John	8/12/2020	12/12/2020	P030b	13/12/2020	16/01/2021	P003a
118874	Tom	20/12/2020	26/12/2020	L022b	27/12/2020	2/01/2021	L021b

Each row contains two room bookings that are part of a split. The second half may be the first part of a sub-sequent split, shown as a separate row.

For each booking, the resolving process tries to search available room for the first N splits.

- Split booking with ID 92553. Try to find a room between 22/11/2020 and 5/12/2020.
- Split booking with ID 110392. There are two splits.
  - First try to resolve it by find a room between 6/12/2020 and 12/12/2020
  - If the first split can be resolved, then try to find a room between 6/12/2020 and 16/01/2021.
  - The result could be first N splits are resolved, all splits are resolved or none of splits is resolved.
- Split booking with ID 118874. Try to find a room between 20/12/2020 to 2/01/2021

## Fixing split bookings after guest arrival

If a guest has already arrived, current stay of room is extended as long as possible.

Example of split bookings after guest arrival

@OptimiseFromDate = '19/02/2020'

ID	FirstName	FirstNight_Room1	LastNight_Room1	RoomNumber_1	FirstNight_Room2	LastNight_Room2	RoomNumber_2
132904	Andrew	9/02/2020	19/02/2020	P061a	20/02/2020	5/03/2020	P021b

Current room is P061a.

The resolving process keeps checking current room's availability by extending 1 day at a time.

1. Can current stay be extended to 20/02/2020
2. Can current stay be extended to 21/02/2020
3. Can current stay be extended to 22/02/2020
4. A date to extend is found or it reaches to the last night for second part of a split

If a date is found, current stay will be extended to that date.



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