Oracle Hospitality OPERA Cloud Distribution
Inventory Calculation

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Contents

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Preface

This document provides detailed information about the Oracle® Hospitality OPERA Cloud Distribution Availability >Inventory Calculation.

DISCLAIMER: note that the interfaces names on the embedded screen shots are samples only and may not reflect the original interface names that you are using. If particular standards have must be observed for specific interfaces, they are noted accordingly.

Purpose

OPERA Cloud Distribution is designed to create efficiency for hotels by developing direct connections to high value Online Travel Agents (OTA) with a cloud native reservation connected directly to the source of availability, rate, and inventory (ARI).

Audience

This document is intended for customers subscribed to OPERA Cloud Distribution.

Customer Support

To contact Oracle Customer Support, access My Oracle Support at the following URL: https://support.oracle.com

When contacting Customer Support, please provide the following:

- Product version and program/module name.
- Functional and technical description of the problem (include business impact).
- Detailed step-by-step instructions to re-create.
- Exact error message received.
- Screen shots of each step you take.

Documentation

Oracle Hospitality product documentation is available on the Oracle Help Center at http://docs.oracle.com/en/industries/hospitality/

Revision History

Table   Revision History

Date	Description of Change
June 2022	Initial Publication

Part I
Introduction

The Inventory section shows the room availability and sell limits of your Property Management System as well as sell limits set for channels.

From the Availability main menu, select Inventory. In this section, you can:

- Search and view the House and Room Type Inventory and Sell Limits.

- Search, view, create, and update Channel Sell Limits.

The calculation of inventory in OPERA Cloud Distribution is influenced in different ways for generic property availability as well as for different channels.

In general, your available rooms are calculated with physical rooms: substract or add Sell Limits, substract Out of Order rooms (OOO) and substract Rooms Sold.

If the inventory has no minus values (no overbooking), the calculation is simple.

If one or more room types are overbooked, and others not, and rooms are still available in your property, there are different options for how the inventory is calculated.

Part II

Overbooking Protection

The Overbooking Protection parameter protects your property as best as possible against overbooking. With the active parameter, the sum of all available room types is never higher than the total available rooms in your property. The availability per room type is always automatically adjusted accordingly.

In the common way, the availability per room type is equal or lower than the total availability in your property, but the sum of all available room types can be higher than the total availability in your property.

Setting the Overbooking Protection Parameter

From the Configuration main menu, select Inventory Management and then select Inventory.

The General Configuration option offers general configuration that is used in Availability > Inventory and Shop & Book functionality.

Select the Add button in the middle of the screen to create the record. Use the pencil on the right hand side of the record to edit the configuration. For more information about General Configuration, see OPERA Cloud Distribution User Guide > Inventory Management section.

- **Overbooking Protection OFF**: The maximum available rooms per room type until the maximum available rooms per property is reached.
- **Overbooking Protection ON**: Distributes the total available rooms to the room types as a percentage. Select this check box if the sum of all available rooms shall never be higher than the total available rooms in your property.

The following examples show you the differences of overbooking protection with and without House Limits.

Overbooking Protection Example 1: Without House Limit

Your property has 300 Rooms with 3 room types (A, B, C), each with 100 rooms and 250 reservations for room type A.

Case	House	A	B	C	Sellable	Explanation
Start	300	100	100	100	300	
250 definite reservations for A	50	-150	100	100	50	250 definite reservations for room type A which overbooks 150 rooms. But the property is not overbooked, there are still 50 rooms from other categories to sell.
Result with Overbooking Protection OFF	50	0	50	50	100	Room type B and C have still more rooms available (100) then the total of property (50). Therefore only the maximum of property is provided, but for both room types (B+C) all rooms are available in house! Advantage: You can provide and book all rooms (50) for all room types, for example, make a reservation for room type B for 50 rooms. As soon as this is done, the property availability is set to 0 and at the same time, room type C no longer has rooms available. Disadvantage: Your property can be overbooked by 50 rooms, by creating two reservations at the same time (50 rooms for B and 50 rooms for C).
Result with Overbooking Protection ON	50	0	25	25	50	The available rooms (house 50) are split among the other room types that can still be booked: B+C each 25 rooms. Advantage: Your property can never get overbooked as only maximum available rooms in total are displayed (for all room types). Disadvantage: It is not possible to book all available rooms by room type although they are available, for example, checking only room type A or B, both have still 100 rooms available).

Overbooking Protection Example 2: With House Limit

Your property has 300 Rooms with 3 room types (A, B, C), each with 100 rooms and the house limit set to reduce the available rooms.

Case	House	A	B	C	Sellable	Explanation
Start	300	100	100	100	300	
house limit reduce 250 rooms (300-250 = 50)	50	100	100	100	50	100 for each room type are available, but only 50 rooms should be shown as available for house to sell.
Result with Overbooking Protection OFF	50	50	50	50	50	Advantage: You can provide and book all rooms (50) for all room types, for example, make a reservation for room type A for 50 rooms. Disadvantage: It is possible to overbook your property by 150 rooms, by creating three reservations at the same time (50 rooms for A, 50 rooms for B and 50 rooms for C).
Result with Overbooking Protection ON	50	16	16	16	49	The available rooms (house 50) are split among the other room types that can still be booked. The result is rounded down (not possible to sell 0.67 rooms), so the sellable total rooms can be different (less) than the available total rooms (50 - 49). For each availability change (such as a new reservation or cancellation) the values are recalculated, so it is still possible to sell all rooms (last room availability). Further details, see next row.
	50	15	16	16	48	After creating 2 definite reservations for A, the values are recalculated. Sellable rooms are now accurate: 50 (house total) -2 (reservation) = 48 (sellable) Calculation: Max available rooms (50) minus sold rooms (2) result (48) divided by physical rooms (300): 48/300=0,16 (factor for multiplication) Available room by room type A (100) minus sold rooms (2) multiplied by factor (0,16): 98*0,16 = 15,68 round down = 15 Available room by room type B (100) minus sold rooms (0) multiplied by factor (0,16): 100*0,16 = 16,00 round down = 16 (same for room type C)

Part III
Inventory Calculation

The following examples show you different options with the information of calculation.

Example 1: No Rooms Sold and No Out of Order

	Room Type	Physical	Sell Limit Control	Sell Limit	OOO	Rooms Sold	Inventory Overbooking Protection OFF	Inventory Overbooking Protection ON	Description
	RT1	50					50	50	
	RT2	100					100	100	
	RT3	100					100	100	
	Property Total	**250**					**250**	**250**	
	Room Type	Sell Limit Type	Sell Limit Value				Inventory Overbooking Protection OFF	Inventory Overbooking Protection ON	
Channel 1	RT1	Value	60				60	60	The entered value is used instead of physical rooms. Calculation: value=physical rooms
	RT2	Value	90				90	90	
	RT3	Value	0				0	0	
Channel 2	RT1	% of Physical	107				53	53	The entered value for physical rooms is used as a percentage of the real physical rooms for inventory per channel. Calculation: 107%*50 physical rooms/100%=53,5 (round down: 53)
	RT2	% of Physical	95				95	95	
	RT3	% of Physical	0				0	0	
Channel 3	RT1	% of Available	50				25	25	The entered value percentage of available rooms is used for inventory per channel. Calculation: (50%*50 available rooms/100%=25)
	RT2	% of Available	70				70	70	
	RT3	% of Available	0				0	0	

Example 2: A Moderate Sell, a Few Out of Order, and No Sell Limit

	Room Type	Physical	Sell Limit Control	Sell Limit	OOO	Rooms Sold	Inventory Overbooking Protection OFF	Inventory Overbooking Protection ON	Description
	RT1	50			5	20	25	25	(Sell Limit (In case not set: physical rooms) minus OOO) minus Sold
	RT2	100				70	30	30	(Sell Limit (In case not set: physical rooms) minus OOO) minus Sold
	RT3	100				85	15	15	(Sell Limit (In case not set: physical rooms) minus OOO) minus Sold
	Property Total	**250**			5	175	**70**	**70**	(Sell Limit (In case not set: physical rooms) minus OOO) minus Sold
	Room Type	Type	Sell Limit Value				Inventory Overbooking Protection OFF	Inventory Overbooking Protection ON	
Channel 1	RT1	Value	60				35	35	(Channel Sell Limit minus OOO) minus Sold
	RT2	Value	90				20	20	(Channel Sell Limit minus OOO) minus Sold
	Rt3	Value	0				0	0	(Channel Sell Limit minus OOO) minus Sold
Channel 2	RT1	% of Physical	107				28	28	(Channel Sell Limit minus OOO) minus Sold
	RT2	% of Physical	95				25	25	(Channel Sell Limit minus OOO) minus Sold
	RT3	% of Physical	0				0	0	(Channel Sell Limit minus OOO) minus Sold
Channel 3	RT1	% of Available	50				12	12	Percentage of available rooms.
	RT2	% of Available	70				21	21	Percentage of available rooms.
	RT3	% of Available	0				0	0	Percentage of available rooms.

Example 3: A Moderate Sell, a Few Out of Order, and Room Type Sell Limit

	Room Type	Physical	Sell Limit Control	Sell Limit	OOO	Rooms Sold	Inventory Overbooking Protection OFF	Inventory Overbooking Protection ON	Description
	RT1	50	5	55	5	20	30	22	Overbooking Protection OFF: Maximum available rooms per room type until the maximum available per property is reached. Overbooking Protection ON: Distributes the total available rooms to the room types as a percentage.
	RT2	100	10	110		70	40	29	Overbooking Protection OFF: Maximum available rooms per room type until the maximum available per property is reached. Overbooking Protection ON: Distributes the total available rooms to the room types as a percentage.
	RT3	100	10	110		85	25	18	Overbooking Protection OFF: Maximum available rooms per room type until the maximum available per property is reached. Overbooking Protection ON: Distributes the total available rooms to the room types as a percentage.
	Property Total	250			5	175	70 (95)	70 (69)	Total available rooms in your property (sum of all room types).
	Room Type	Type	Sell Limit Value				Inventory Overbooking Protection OFF	Inventory Overbooking Protection ON	
Channel 1	RT1	Value	60				35	28	
	RT2	Value	90				20	12	
	Rt3	Value	0				0	0	
Channel 2	RT1	% of Physical	107				28	21	
	RT2	% of Physical	95				25	17	
	RT3	% of Physical	0				0	0	
Channel 3	RT1	% of Available	50				15	11	
	RT2	% of Available	70				28	20	
	RT3	% of Available	0				0	0	

Example 4: A Moderate Sell, a Few Out of Order, Room Type Sell Limit, and House Sell Limit

	Room Type	Physical	Sell Limit Control	Sell Limit	OOO	Rooms Sold	Inventory Overbooking Protection OFF	Inventory Overbooking Protection ON	Description
	RT1	50	5	55	5	20	30	25	Overbooking Protection OFF: Maximum available rooms per room type until the maximum available per property is reached. Overbooking Protection ON: Distributes the total available rooms to the room types as a percentage.
	RT2	100	10	110		70	40	33	Overbooking Protection OFF: Maximum available rooms per room type until the maximum available per property is reached. Overbooking Protection ON: Distributes the total available rooms to the room types as a percentage.
	RT3	100	10	110		85	25	21	Overbooking Protection OFF: Maximum available rooms per room type until the maximum available per property is reached. Overbooking Protection ON: Distributes the total available rooms to the room types as a percentage.
	Property Total	250	10	260			80 (95)	80 (79)	Total available rooms in your property (sum of all room types).
	Room Type	Type	Sell Limit Value				Inventory Overbooking Protection OFF	Inventory Overbooking Protection ON	
Channel 1	RT1	Value	60				35	31	
	RT2	Value	90				20	15	
	Rt3	Value	0				0	0	
Channel 2	RT1	% of Physical	107				28	24	
	RT2	% of Physical	95				25	20	
	RT3	% of Physical	0				0	0	
Channel 3	RT1	% of Available	50				15	12	
	RT2	% of Available	70				28	23	
	RT3	% of Available	0				0	0	

Example 5: One Room Type Overbooked, a Few Out of Order, Room Type Sell Limit, and House Sell Limit

	Room Type	Physical	Sell Limit Control	Sell Limit	OOO	Rooms Sold	Inventory Overbooking Protection OFF	Inventory Overbooking Protection ON	Description
	RT1	50	5	55	5	20	30	16	Overbooking Protection OFF: Maximum available rooms per room type until the maximum available per property is reached. Overbooking Protection ON: Distributes the total available rooms to the room types as a percentage.
	RT2	100	10	110		120	0	0	
	RT3	100	10	110		85	25	13	Overbooking Protection OFF: Maximum available rooms per room type until the maximum available per property is reached. Overbooking Protection ON: Distributes the total available rooms to the room types as a percentage.
	Property Total	250	10	260			30 (55)	30 (29)	Total available rooms in your property (sum of all room types).
	Room Type	Type	Sell Limit Value				Inventory Overbooking Protection OFF	Inventory Overbooking Protection ON	
Channel 1	RT1	Value	60				35	23	
	RT2	Value	90				0	0	
	Rt3	Value	0				0	0	
Channel 2	RT1	% of Physical	107				28	16	
	RT2	% of Physical	95				0	0	
	RT3	% of Physical	0				0	0	
Channel 3	RT1	% of Available	50				15	8	
	RT2	% of Available	70				0	0	
	RT3	% of Available	0				0	0	

Example 6: Available Rooms for House and Channels with Different House Sell Limits and Room Type Sell Limits for one Room Type

Example Nr.	House						Channel Limits			Channel Zero Limits		CHANNEL	Calculation for Channel Limits	Explanation (Channel Limits)
	Physical Rooms	Sell-Limit Control	Sell-Limit	OOO	Sold Rooms	Available Rooms	value	% of physical rooms	% of available rooms	sold value	sold %	Available Rooms		
A: Examples with **Sell-Limit Control +5**														
A-01	50			2		48						48		
A-02	50	5	55	2		53						53		
A-03	50	5	55	2		53	60					58	60-2=58	
A-04	50	5	55	2		53		107				51	50/100*107=53,5-2=51,5 round down:51	
A-05	50	5	55	2		53			50			26	53/100*50=26,5 round down: 26	
A-06	50	5	55	2	30	23				31		23		limit is not exceeded > all available rooms are shown
A-07	50	5	55	2	30	23				30		0		limit is exceeded > 0 available rooms are shown
A-08	50	5	55	2	30	23					61	23	50/100*61=31>30=Inventory is displayed	limit is not exceeded > all available rooms are shown
A-09	50	5	55	2	30	23					60	0	50/100*60=30<=30=No inventory is displayed as it is 0.	limit is exceeded > 0 available rooms are shown
A-10	50	5	55	2	30	23			50	31		11	31>30=true, 23/100*50=11,5 round down:11	
A-11	50	5	55	2	30	23			50		59	0	50/100*59=29,5<30=No inventory is displayed as it is 0.	
B: Examples with **Sell-Limit Control -5**														
B-01														
B-02	50	-5	45	2		43						43		
B-03	50	-5	45	2		43	60					58		no change to A-03 > calculation based in physical rooms
B-04	50	-5	45	2		43		107				51		no change to A-04 > calculation based in physical rooms
B-05	50	-5	45	2		43			50			21	43/100*50=21,5 round down:21	calculation is based on available rooms
B-06	50	-5	45	2	30	13				31		13		
B-07	50	-5	45	2	30	13				30		0		
B-08	50	-5	45	2	30	13					61	13		same as A-08
B-09	50	-5	45	2	30	13					60	0		same as A-09
B-10	50	-5	45	2	30	13			50	31		6	31>30=true, 13/100*50=6,5 roundDown: 6	
B-11	50	-5	45	2	30	13			50		59	0	50/100*59=29,5<30=No inventory is displayed as it is 0.	