Oracle® Hospitality OPERA Exchange Interface

Inventory Snapshot XML Specifications

October 2017

ORACLE

Contents

Preface

This document describes the Inventory Snapshot XML schema layout and data elements used for OPERA Xchange Interface. It further explains the mapping of the XML data elements into the OPERA application and the generic business rules that are applied.

Audience

This document is intended for those developing custom applications that interact with Inventory Snapshot functionality in OPERA through OXI.

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 and any associated log files
- 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/

1 Introduction

In the following document, the third party system is referred as External System. Third Party Systems can be central reservation systems, property management systems, or others. The OPERA applications are referred as OPERA. Please note that OPERA can function as single property OPERA, multi property OPERA, or as central system OPERA. The respective differences between these OPERA flavors are addressed when necessary. The OPERA Xchange Interface is referred as OXI.

The specifications in this document are based on the XML schema version 4.0, compatible with OPERA version 4.0 onwards. All XML schema versions maintain backward compatibility.

Inventory Snapshot from External System to OPERA

OPERA Type	OPERA Sales & Catering; OPERA Reservation System; OPERA Sales Force Automation.
External System Type	External PMS.
Dataflow Direction	External PMS will send an inventory snapshot to the OPERA database.

Scenarios

This model is applied if the external PMS does not send all reservation and block data to the OPERA system and the inventory is therefore not fully synchronized through the normal data flow. In such a situation the OPERA system has to receive an update on the inventory status from the external PMS.

Inventory Snapshot Scenarios

1. **The interface transmits the following: Full block transfer both ways but no reservations. In this case the external system sends block counts and transient reservation counts in snapshot (OPERA SC-PMS V6 model):**
   - Parameter HANDLE_BLOCK__SOLD has to be set to 'TRANSMIT_BOTH_WAYS. This invokes OXI to process block sold counts received in the block messages from external system and OXI sends the block sold counts in the block messages to the external system.
   - Parameter INV_SNAPSHOT_BLOCKS has to be set to Yes.
   - Parameter INV_SNAPSHOT_RES has to be set to Yes.

   Conditions and settings as above will result in following handling for the inventory snapshot:
   - Block sold counts will be updated with each block message transfer and will reflect accurate values iin both systems.

- Block Count has to be sent by external PMS and OXI will add the difference between its own overall block count and the one received in the snapshot, as OPERA only has the allotted blocks, but not the picked up reservations from the block.
- Resv Count has to be sent by external PMS and will be updated by OXI when receiving the snapshot. This will be stored in the column for transient reservations in OPERA as OPERA has none of these reservations itself.

2. **The interface transmits the following: Reservations from OPERA ORS/SFA to external PMS only. No blocks. Block reservations will also be sent from OPERA to PMS based on blocks that were built manually in both systems. In this case, external PMS sends block counts and transient reservation counts in snapshot (OXI_HUB to CLS PMS model).**
   - Parameter HANDLE_BLOCK_SOLD has to be set to NONE as no block messages are exchanged.
   - Parameter INV_SNAPSHOT_BLOCKS has to be set to yes.
   - Parameter INV_SNAPSHOT_RES has to be set to yes.

   Conditions and settings as above will result in following handling for the inventory snapshot:
   - Block Count has to be sent by external PMS and OXI will add the difference between its own block reservation count and the block count from the PMS snapshot, as OPERA does neither have the allotted blocks, nor all block reservations from PMS.
   - Resv Count has to be sent by external PMS and OXI will add the differnce between its own transient reservation count and the resv count from the PMS snapshot.
3. **The interface transmits the following: Reservations both directions but no blocks. Block reservations will also be exchanged based on blocks that were built manually in both systems. In this case the external PMS only needs to send block counts in the snapshot.**
   - Parameter HANDLE_BLOCK__SOLD has to be set to NONE as no block messages are exchanged.
   - Parameter INV_SNAPSHOT_BLOCKS has to be set to Yes.
   - Parameter INV_SNAPSHOT_RES has to be set to No.

   Conditions and settings as above will result in following handling for the inventory snapshot:
   - Block Count has to be sent by external PMS and OXI will add the difference between its own block reservation count and the block count from the PMS snapshot, as OPERA does not have the allotted blocks from the PMS.
   - Resv Count does not need to be sent as this should be in sync between the two systems

Handling of Overbooking Levels

Physical rooms can be set on OPERA level or also be left blank, as in the case of OPERA S&C. Since OXI has to calculate the sell limits based on a combination of physical rooms and overbooking levels, a parameter EXTERNAL_PHYSICALROOMS under

OXI_INVENTORY parameters has been introduced to either use the physical counts from the OPERA values or, if not existing there, from the incoming snapshot message.

Business Rules for V6 PMS

- V6 PMS will only send definite and tentative total counts and will not split the counts further down into blocks and transient reservations. This means it will never be entirely clear in OPERA how many block reservations are made. OXI will deduct its own block count from the snapshot and display the difference as transient reservations.
- V6 PMS is sending one message per date per room type in the snapshot.

Business Rules for External PMS

- External PMS can send several room types within one date in the snapshot.
- External PMS can send several dates in the snapshot.
- If external PMS uses blocks, it has to send total block rooms allotted and picked up in BlockCount and ONLY transient reservations in ResvCount. It can also be split between definite and tentative reservations as this is allowed in the external system. The sum of all definite and tentative block and resv counts must be equal to the total sold count of the hotel.
- If external PMS does not populate BlockCount, ALL reservations have to be sent in ResvCount and will be considered transient reservations.

Inventory Snapshot from OPERA to External System

OPERA Type	OPERA single or multi property PMS
External System Type	Any external system.
Dataflow Direction	OPERA PMS will send an inventory snapshot to the external system.

Scenarios

This model is applied if OPERA PMS does not send all reservation and block data to the external system and the inventory is therefore not fully synchronized through the normal data flow. In such a situation the external system has to receive an update on the inventory status from OPERA PMS.

No business event configuration in OPERA is necessary for the inventory snapshot, as this will be handled through the Automatic Transmission Schedule in OXI, where users can select the interval between transmittals and the range of days that will be covered each time.

Inventory Snapshot Scenarios

1. **The interface transmits the following: Full block transfer but no reservations. In this case OPERA PMS sends block counts and transient reservation counts in snapshot. Possible scenario is OPERA PMS to a foreign S&C**.

- Parameter HANDLE_BLOCK__SOLD has to be set to OPERA- EXT_SYS. This means that OXI will send the block sold count in each block message.
- Parameter INV_SNAPSHOT_BLOCKS has to be set to no as it is not used for this dataflow.
- Parameter INV_SNAPSHOT_RES has to be set to no as it is not used for this dataflow.
- The automatic transmission schedule has to be configured for Inventory.

Conditions and settings as above will result in following handling for the inventory snapshot:

- All block sold counts will be sent with each block message and will reflect accurate values in the external system.
- Total block count will be sent by OXI in the snapshot. The external system has to add the difference of the OPERA block count to their block count, as they would not have the OPERA block reservations.
- Total reservation count will be sent by OXI in the snapshot. The external system has to add the difference of the OPERA transient reservation count to their own, as they would not have the OPERA transient reservations.

2. **The interface transmits the following: Reservations from external system to OPERA PMS only. No blocks. Block reservations will also be sent from external system to OPERA PMS based on blocks that were built manually in both systems. In this case OPERA PMS sends block counts and transient reservation counts.**

   - Parameter HANDLE_BLOCK__SOLD has to be set to NONE as no block messages are transmitted.
   - Parameter INV_SNAPSHOT_BLOCKS has to be set to no as it is not used for this dataflow.
   - Parameter INV_SNAPSHOT_RES has to be set to no as it is not used for this dataflow.
   - The automatic transmission schedule has to be configured for Inventory.

   Conditions and settings as above will result in following handling for the inventory snapshot:

   - Total block count will be sent by OXI in the snapshot. The external system has to add the difference of the OPERA block count to their block count, as they would neither have the OPERA blocks nor the block reservations.
   - Total reservation count will be sent by OXI in the snapshot. The external system has to add the difference of the OPERA transient reservation count to their own as they would not have the OPERA transient reservations.

3. **The interface transmits the following: Reservations both directions but no blocks. Block reservations will also be exchanged based on blocks that were built manually in both systems. In this case OPERA PMS sends block counts and still sends transient reservation counts as well.**

   - Parameter HANDLE_BLOCK__SOLD has to be set to NONE as no block messages are transmitted.
   - Parameter INV_SNAPSHOT_BLOCKS has to be set to no as it is not used for this dataflow.
   - Parameter INV_SNAPSHOT_RES has to be set to no as it is not used for this dataflow.

- The automatic transmission schedule has to be configured for Inventory.

Conditions and settings as above will result in following handling for the inventory snapshot:

- Transient reservation count will be in sync between both systems as reservations are transmitted both ways.
- Total block count will be sent by OXI in the snapshot. The external system has to add the difference of the OPERA block count to their block count, as they would not have the OPERA blocks, only the block reservations.
- Total reservation count will be sent by OXI in the snapshot. The external system can ignore this figure as it should be in sync from the real time message transfer. If a difference still exists, the external system can choose to add the difference to their transient count.

Handling of Overbooking Levels

Physical rooms are set in OPERA PMS and will be sent to the external system. The parameter EXTERNAL_PHYSICALROOMS under OXI_IINVENTORY is ignored in this case. The external system has to decide whether it will use the OPERA physical rooms or their own for the calculation of overbooking levels.

Mapping Table Data Elements

Legend for mapping table

External System Column	Indicates the possible external system value in italics. This column is blank if no value is required and it describes schema layout only.
XML Message Label	The label or tag that is given to the data element in this XML schema. These labels are derived from HITIS and are standard for all OXI XML schema labels.
OPERA Table / Column	The OPERA table and column name that is populated with the data, of that is the source for the data.
Business Rules	Description of data element, conversion table name if applicable, all business rules, and functionality description.

Inventory Snapshot - Mapping Table between External system, XML Message, and OPERA.

The original schemas contain more data elements then are described in the following mapping table. Whatever is not described is not used by OXI and can be ignored in the schema.

XML Message Main Group	Xml Message Label	OPERA Table / Column	Business Rules
Hotel Reference	ChainCode		Chain Code. Not used.
Hotel Reference	HotelCode	Number_To_Sell_Limits.Resort Reservation_Summary.Resort Rate_Daily_Sold.Resort	Property Code. Mandatory. **Rules:** OXI will convert if external system and OPERA property code differ.
Daily Inventory	Datum	Number_To_Sell_Limits.Limit_Date Rate_Daily_Sold.Reservation_Date Reservation_Summary.Considered_Date	Date for inventory snapshot. Mandatory. **Rules:** Can be a collection of several dates within the same message.
Daily Inventory RoomType Inventory	RoomType	Number_To_Sell_Limits.Rom_Category Rate_Daily_Sold.Room_Category Reservation_Summary.Room_Category	Room type that inventory update is sent for. Mandatory. **Rules:** Can be a collection of several room types within the same message.
Daily Inventory RoomType Inventory	Generic	Number_To_Sell_Limits.Number_To_Sell	Generic flag on room type. Not mapped but only used internally in OPERA as information.

Daily Inventory RoomType Inventory	PhysicalRooms	Number_To_Sell_Limits.Number_To_Sell	Physical rooms in the hotel for that room type. **Rules:** *External system to OPERA.* 1. OXI parameter EXTERNAL_PHYSICALROOMS will indicate handling. Set parameter to yes if OPERA does not have physical counts set (E.g. OPERA is S&C). In this case OXI will use the physical room counts from the snapshot message and add these to the room type overbook level when inserting into the OPERA sell limits table. 2. Set parameter to No if OPERA has set physical room levels. In this case the physical rooms from the snapshot are ignored and the room type overbook level is added to the existing OPERA physical counts when inserting into the sell limits table. *OPERA to external system.* OPERA will always send its physical room counts and the parameter is not used. The external system needs to determine whether to consider these OPERA values when calculating overbooking levels.
Daily Inventory RoomType Inventory	HouseOverbook	Number_To_Sell_Limits.Number_To_Sell	Overbooking on house level. **Rules:** *External system to OPERA.* 1. Room type must be left blank in order to process this. 2. It can only be used if OPERA has its own physical room count. In case the physical rooms have to be taken from the snapshot (parameter EXTERNAL_PHYSICALROOMS set to yes), house overbooking will be ignored by OXI. *OPERA to external system.* OXI will send house overbooking as a record without room type.

Daily Inventory RoomType Inventory	RoomTypeOverbook	Rate_Daily_Sold.Number_Sold Reservation_Summary.Number_Sold	Overbooking on room type level. **Rules:** Room type must be sent in order to process this.
Daily Inventory RoomType Inventory	OutOfOrder	Reservation_Summary.Adults	Out of order rooms for that room type. **Rules:** 1. Room type must be sent in order to process this. 2. The Out_Of_Order_YN flag in OPERA must be 'Y' when inserting this or when sending this to external system.
Daily Inventory RoomType Inventory	AdultsInHouse	Reservation_Summary_Children	Adults in house on that day for that room type.
Daily Inventory RoomType Inventory	ChildrenInHouse	Reservation_Summary.Arr_Rooms	Children in house on that day for that room type.
Daily Inventory RoomType Inventory	ArrivalRooms	Reservation_Summary.Dep_Rooms	Arrival Rooms on that day for that room type.
Daily Inventory RoomType Inventory	DepartureRooms	Rate_Daily_Sold.Number_Sold Reservation_Summary.Resv_Inv_Type = 'D'	Departure Rooms on that day for that room type.
Daily Inventory RoomType Inventory	DefiniteCount	Rate_Daily_Sold.Number_Sold Reservation_Summary.Resv_Inv_Type = 'T'	Total Definite Reservations on that day for that room type. **Rules:** 1. All reservations deducted from inventory are considered as definite. 2. The Out_Of_Order_YN flag in OPERA must be 'N' when inserting this or when sending this to external system.
Daily Inventory RoomType Inventory	TentativeCount	Rate_Daily_Sold.Number_Sold Reservation_Summary.No-Rooms Event type = 'B'	Total Tentative Reservations on that day for that room type. **Rules:** 1. All reservations NOT deducted from inventory are considered as tentative. 2. The Out_Of_Order_YN flag in OPERA must be 'N' when inserting this or when sending this to external system.

Daily Inventory RoomType Inventory	Count BlockCount	Rate_Daily_Sold.Number_Sold Reservation_Summary.No-Rooms Event type = 'R'	Total Block Rooms on that day for that room type. **Rules:** 1. This appears once under definite and once under tentative counts. 2. This comprises all allotted block rooms and all picked up reservations from a block. 3. The Out_Of_Order_YN flag in OPERA must be 'N' when inserting this or when sending this to external system.
Daily Inventory RoomType Inventory	Count ResvCount		Total Transient Rooms on that day for that room type. **Rules:** 1. This appears once under definite and once under tentative counts. 2. This comprises all transient reservations. 3. The Out_Of_Order_YN flag in OPERA must be 'N' when inserting this or when sending this to external system.
Market Segment	MarketCodeCount		Not currently used.

Requirements to Build the XML Messages

Information on the XML Schemas Used by OXI

- We use Oracle xmlparser to parse the xml message
- The current OXI XML schemas are created before the W3C Specifications released, so they are not W3C compliant
- The current OXI XML schemas are derived from HITIS specifications
- The current OXI XML schemas are created using Microsoft SDK 3.0
- The current OXI XML schemas are called as XDR Schemas [XDR : The XML-Data Reduced (XDR) schema defines the individual elements, attributes, and relations used in the XML structure]

The XML Message Header Label

A label needs to be added in the XML message header so OXI can identify who the sender was. We have introduced this label as a standard for all messages:

INT |Resort | Msgtype |MsgId

<?Label FTCRS|SANNO|RESERVATION|532317?>

Label	Description
INT	The interface name. This can be the external system name.
Resort	The external system property code, which will be converted into the OPERA property code.
MsgType	Message Type identifies what kind of message is received.
MsgID	Message ID from the external system. Should be a unique message ID.