Kiosk Integration Specifications
Release 2010A

Issue 1

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Kiosk Integration Workgroup

About HTNG

Hotel Technology Next Generation ("HTNG") is a nonprofit organization with global scope, formed in 2002 to facilitate the development of next-generation, customer-centric technologies to better meet the needs of the global hotel community. HTNG's mission is to provide leadership that will facilitate the creation of one (or more) industry solution set(s) for the lodging industry that:

- Are modeled around the customer and allow for a rich definition and distribution of hotel products, beyond simply sleeping rooms;
- Comprise best-of-breed software components from existing vendors, and enable vendors to collaboratively produce world-class software products encompassing all major areas of technology spending: hotel operations, telecommunications, in-room entertainment, customer information systems, and electronic distribution;
- Properly exploit and leverage a base system architecture that provides integration and interoperability through messaging; and that provides security, redundancy, and high availability;
- Target the needs of hotel companies up to several hundred properties, that are too small to solve the issues themselves;
- Will reduce technology management cost and complexity while improving reliability and scalability; and
- Can be deployed globally, managed remotely, and outsourced to service providers where needed.

In June 2005, HTNG announced the first-ever "Branding and Certification Program" for hotel technology. This program will enable vendors to certify their products against open HTNG specifications, and to use the "HTNG Certified" logo in their advertising and collateral materials.

It will enable hotels to determine which vendors have completed certification of their products against which specific capabilities, and the environments in which performance is certified. HTNG's vision is to achieve a flexible technical environment that will allow multiple vendors' systems to interoperate and that will facilitate vendor alliances and the consolidation of applications, in order to provide hotels with easily managed, continually evolving, cost-effective solutions to meet their complete technology needs on a global basis.

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1 Document History

1.1 Document Changes

Version	Date	Author	Comments
0.1	19 Jan 2010	Sara Pardo, Jay Rosamilia	Initial template with use cases and some sample messages / data element tables integrated
0.2	28 Jan 2010	Jay Rosamilia	Added additional field definitions.
0.3	04 Feb 2010	Jay Rosamilia Sergiu Pocan Laurent Cardot Gary Gage	Additional content for Keys, Folios, setting folios, and reservation retrieval, as well as introductory/background sections.
0.4	08 Feb 2010	Jay Rosamilia Gary Gage	Combined guest lookups. Completed key encoding and folio data definitions.
0.5	09 Feb 2010	Jay Rosamilia	Updated UML Diagrams
0.6	09 Feb 2010	Jay Rosamilia	Added optimal Check-in/Check-out UML flow.
0.7	10 Feb 2010	Jay Rosamilia Ryan de Laplante	Combined reservations modifications and created initial sample messages. Removed Close folio message. Added additional content to check-in/check-out messages.
0.8	11 Feb 2010	Jay Rosamilia Gary Gage	Incorporated additional sample message content, added missing folio retrieval use case, clarified some sentence structures.
0.9	12 Feb 2010	Jay Rosamilia Gary Gage	Corrected UML's to use correct messages. Made sample message more meaningful. Added reference to Payment Processing Specification 2010A.
0.9.1	8 Apr 2010	Jay Rosamilia	Implemented member review comments.
0.9.2	15 Apr 2010	Jay Rosamilia	Added Appendix describing Web Services.
1.0	23 April 2010		Public Release

2 Acknowledgements

HTNG gratefully acknowledges the contributions of the following people in the development of this document:

Workgroup Member	Company
Gary Gage	Agilysys
Laurent Cardot	Ariane Systems
David Walpole	Ariane Systems
Ryan de Laplante	It Just Works Software
Doug MacRae	It Just Works Software
Mary Turner	SoftBrands / Infor
Bill Rosenberg	Starwood Hotels & Resorts Worldwide

3 Document Information

3.1 Document Purpose

Increasingly, self-service kiosks are used in the hospitality industry, and the interaction between the Kiosk and the Property Management System (PMS) is complex. This document defines the standard messaging to resolve this problem.

3.2 Scope

The messages described in this document cover the check-in and the check-out process. The document in its initial version does not cover self-service features such as spa reservations and additional service ordering, but these features may be incorporated in a future version.

3.3 Audience

This document is intended to be used by development teams of both kiosk and PMS vendors in order to help them develop a standard interface. It may also be used by Hotel Groups looking to standardize their interfaces within their hotel architectures.

3.4 Overview

This document describes the business processes, use cases and messaging for integrating a PMS and a kiosk.

3.5 Document Terms

For the purpose of this document, the following terms have been defined as follows:

Term	Definition
PMS	Property Management System
OpenTravel or OTA	OpenTravel Alliance (http://www.opentravel.org)

3.6 Referenced Documents

The following table shows the documents upon which this document depends:

Name	Location
HTNG Payment Systems & Data Security - Payment Processing Specification 2010A	http://www.opengroup.org/htng/specs/
OpenTravel Alliance Specifications	http://www.opentravel.org

4 Business Process

4.1 Overview

By creating a standard interface protocol between Kiosks and PMSs, this document gives flexibility to the hotels and lowers the overall costs of implementation by helping their vendors to develop a straightforward solution.

4.2 Roles

This specification defines the following roles:

4.2.1 Kiosk

The Kiosk is the system that will allow the guest, in a self-service manner, to access services otherwise performed by hotel staff.

4.2.2 Property Management System

The Property Management System provides a series of services for access by the Kiosk in response to the requests that are transmitted during the check-in/out process.

4.3 Behavior

Kiosks require specific information from PMSs in order to identify guests, retrieve their reservation details, input necessary information, add options and select preferences, confirm and pay, and cut a room key in addition to printing documents.

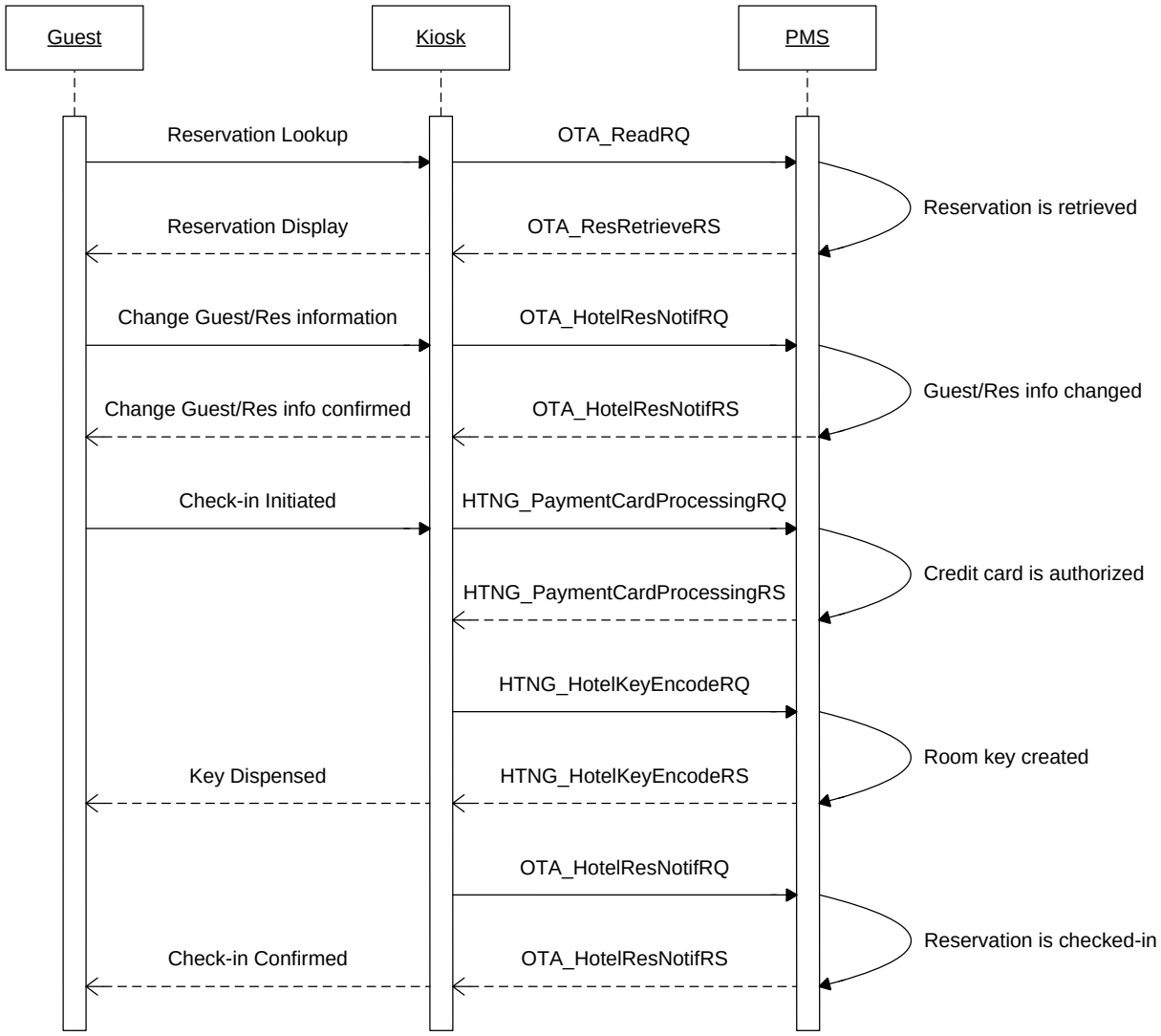
4.4 Message Flows

For clarity, the use cases described hereafter are listed in chronological order.

4.4.1 Check-In Process

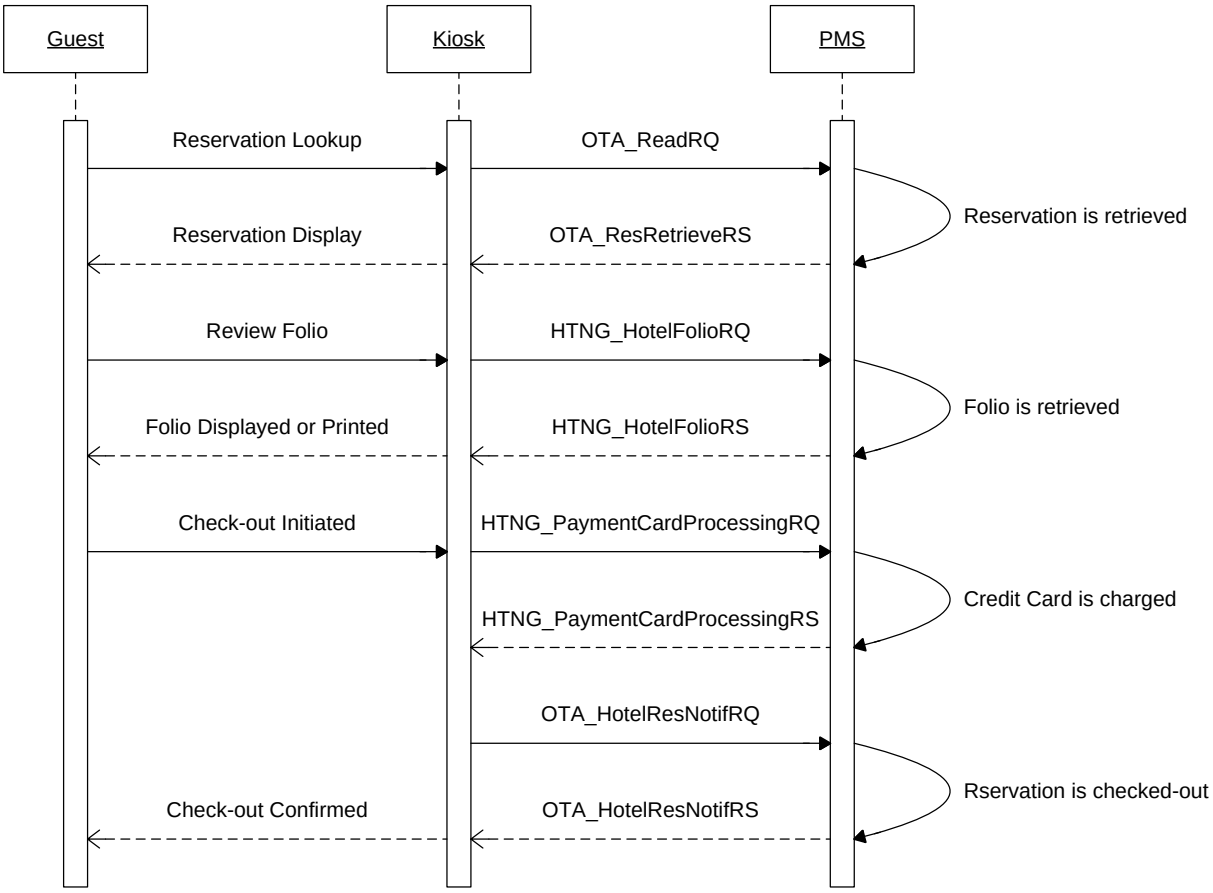
A guest begins the check-in process by verifying his identity on the kiosk terminal. The kiosk will request the reservation that applies to this guest. If multiple reservations are found, further refinement must be performed until a single reservation is located and presented on the kiosk screen.

The kiosk now needs to send the PMS the necessary credit card information for authorization, a request to encode a room key and to update the reservation's status to checked-in.



4.4.2 Check-Out Process

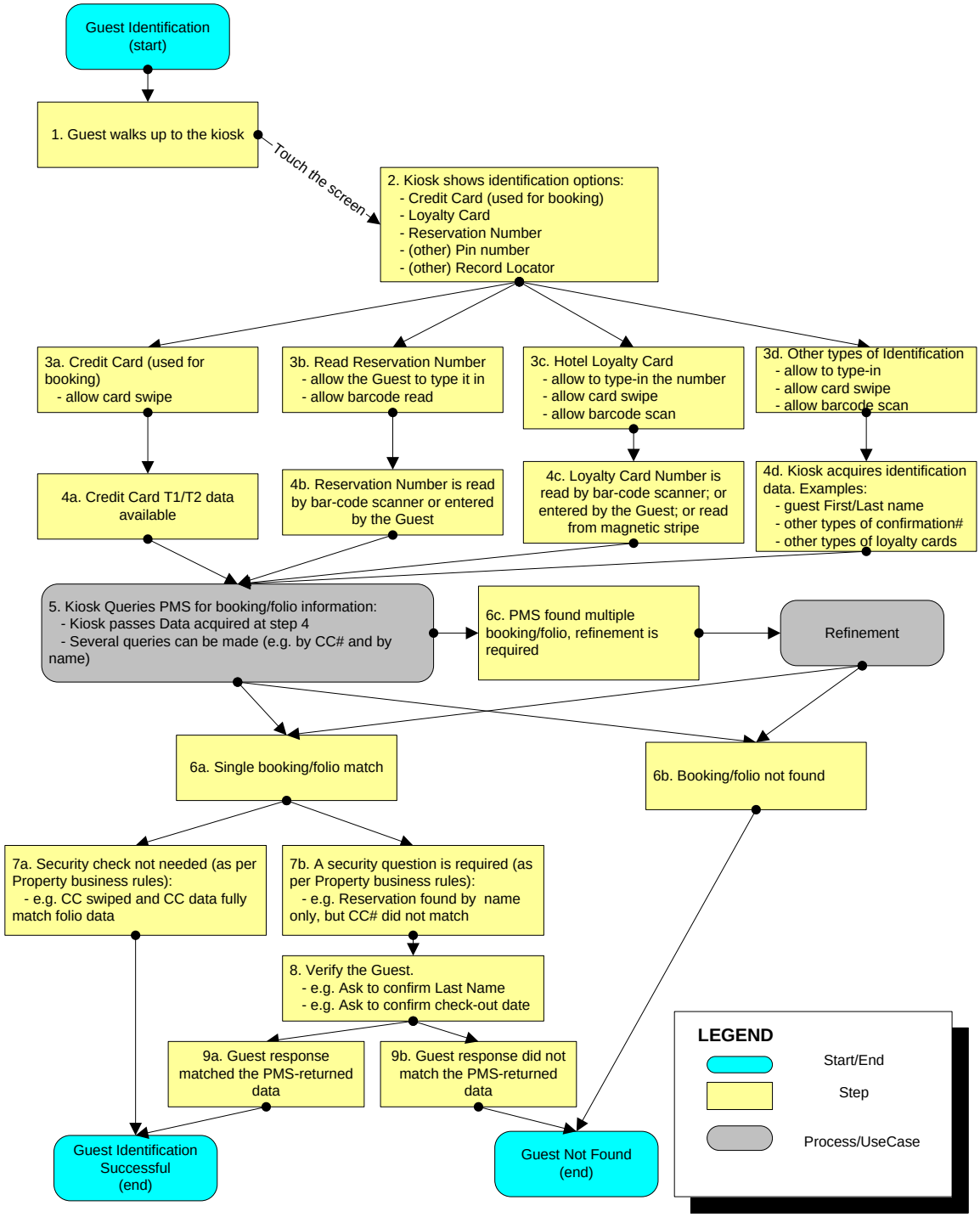
A guest begins the check-out process by verifying his identity on the kiosk terminal. Kiosk will retrieve the billing information and display the invoice. The guest will then be guided through the payment process and will receive payment confirmation.

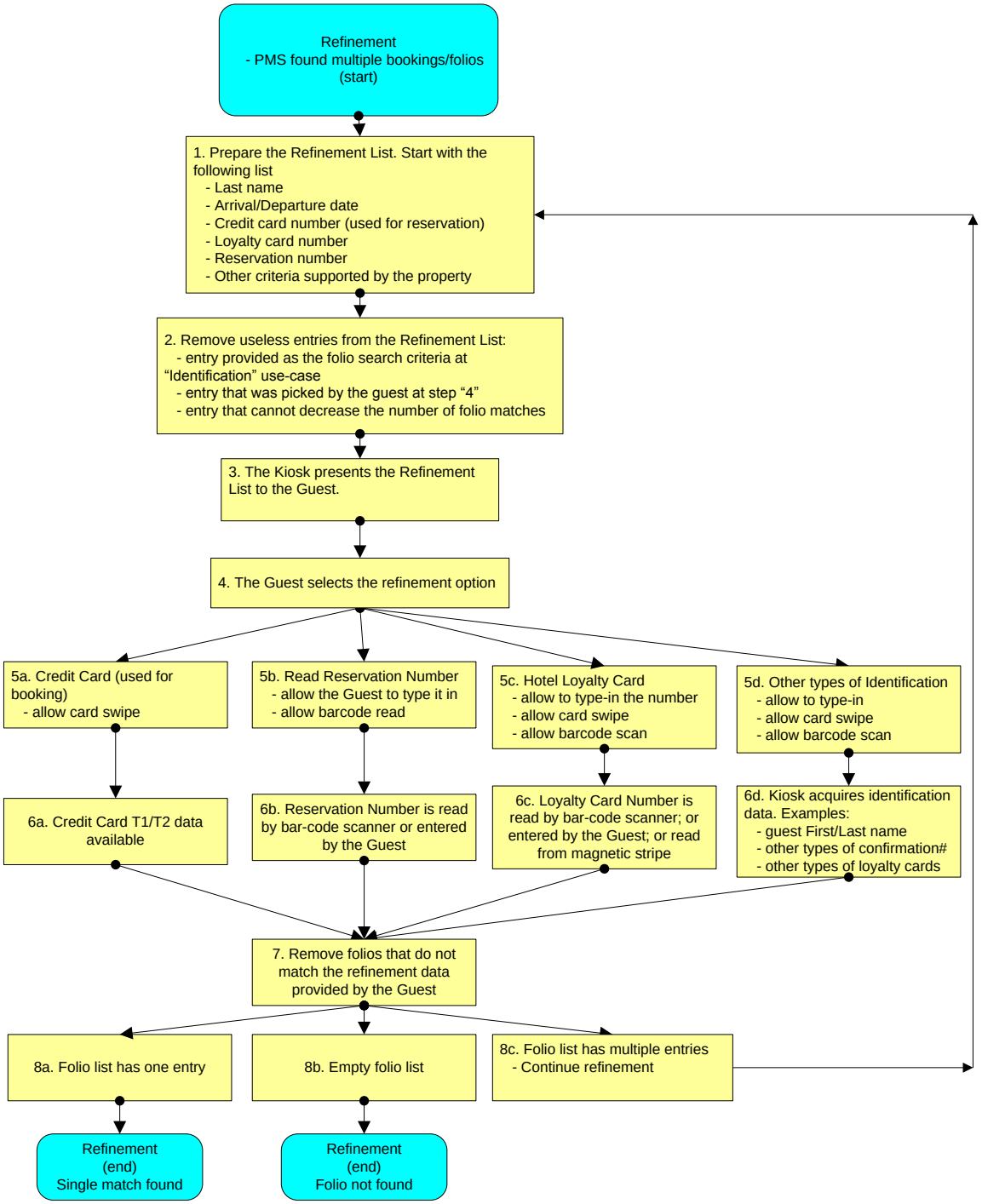

Guest
Kiosk
PMS
Reservation Lookup
OTA_ReadRQ
Reservation is retrieved
Reservation Display
OTA_ResRetrieveRS
Review Folio
HTNG_HotelFolioRQ
Folio is retrieved
Folio Displayed or Printed
HTNG_HotelFolioRS
Check-out Initiated
HTNG_PaymentCardProcessingRQ
Credit Card is charged
HTNG_PaymentCardProcessingRS
OTA_HotelResNotifRQ
Rservation is checked-out
Check-out Confirmed
OTA_HotelResNotifRS

5 Use Cases

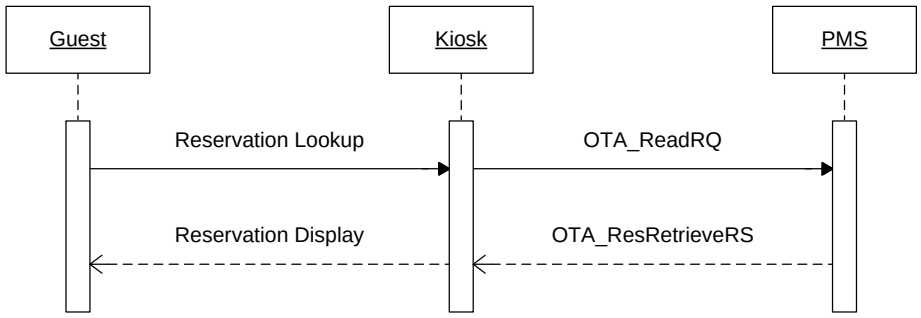
5.1 Find Booking

This is the process used to identify the guest, and locate the one reservation pertinent to this check in.




Refinement
- PMS found multiple bookings/folios
(start)
1. Prepare the Refinement List. Start with the following list
- Last name
- Arrival/Departure date
- Credit card number (used for reservation)
- Loyalty card number
- Reservation number
- Other criteria supported by the property
2. Remove useless entries from the Refinement List:
- entry provided as the folio search criteria at "Identification" use-case
- entry that was picked by the guest at step "4"
- entry that cannot decrease the number of folio matches
3. The Kiosk presents the Refinement List to the Guest.
4. The Guest selects the refinement option
5a. Credit Card (used for booking)
- allow card swipe
5b. Read Reservation Number
- allow the Guest to type it in
- allow barcode read
5c. Hotel Loyalty Card
- allow to type-in the number
- allow card swipe
- allow barcode scan
5d. Other types of Identification
- allow to type-in
- allow card swipe
- allow barcode scan
6a. Credit Card T1/T2 data available
6b. Reservation Number is read by bar-code scanner or entered by the Guest
6c. Loyalty Card Number is read by bar-code scanner; or entered by the Guest; or read from magnetic stripe
6d. Kiosk acquires identification data. Examples:
- guest First/Last name
- other types of confirmation#
- other types of loyalty cards
7. Remove folios that do not match the refinement data provided by the Guest
8a. Folio list has one entry
8b. Empty folio list
8c. Folio list has multiple entries
- Continue refinement
Refinement
(end)
Single match found
Refinement
(end)
Folio not found

5.1.1 Messaging Use Case



Use Case Name:	**Find Booking**
Summary:	The guest goes to a kiosk to check in and provides one or more IDs to validate him or herself. The Kiosk searches for one booking that meets the criteria and returns booking summary data.
Basic Course of Events:	**The Use Case Begins when the Guest starts to Check In at the Kiosk** 1. The Guest enters some methods of Identification 2. The Kiosk performs a Booking Search for bookings for a guest arriving today that match the ID entered 3. The PMS finds a single booking that matches the entered criteria 4. The PMS returns a booking summary to the Kiosk 5. The Kiosk displays the booking summary and asks the guest to confirm. 6. The Guest Confirms that this is their booking The Use Case Ends when the Guest has found their booking
Alternative Paths:	**In Step 3 the PMS finds more than 1 matching booking** 1. The PMS sends an error message to the Kiosk 2. The Kiosk ask the guest to enter additional ID 3. The Kiosk sends a new search to the PMS with more criteria 4. The PMS finds a single match. 5. The Use case returns to the Basic Flow **In Step 3 the PMS finds zero bookings matching the selection** 1. The PMS Sends an error message to the Kiosk 2. The Kiosk advises the guest that a booking cannot be found. 3. The Kiosk invites the guest to try again or go to the desk.
Trigger:	The Guest initiates a Check In
Assumptions:	The guest does have a booking at this hotel arriving today.
Preconditions:	The guest has not found his booking.
Postconditions:	The Guest Has found his booking.

5.1.2 Data Element Table – Request

Element | @Attribute	Num	Description/Contents
OTA_ReadRQ	1	A generic message, available as an action on several OpenTravel services which requests a server to read and return the document type identified by the UniqueID element.
@EchoToken	0..1	A reference for additional message identification, assigned by the requesting host system. When a request message includes an echo token the corresponding response message MUST include an echo token with an identical value.
@TimeStamp	1	Indicates the creation date and time of the message in UTC using the following format specified by ISO 8601; YYYY-MM-DDThh:mm:ssZ with time values using the 24 hour clock (e.g. 20 November 2003, 1:59:38 pm UTC becomes

Element | @Attribute	Num	Description/Contents
		2003-11-20T13:59:38Z).
@Version	1	For all OpenTravel versioned messages, the version of the message is indicated by a decimal value.
@Target	0..1	Used to indicate whether the request is for the Test or Production system.
OTA_ReadRQ / POS / Source / RequestorID	1	An identifier of the entity making the request (e.g. ATA/IATA/ID number, Electronic Reservation Service Provider (ERSP), Association of British Travel Agents (ABTA)).
@Type	1	A reference to the type of object defined by the UniqueID element. Refer to OpenTravel Code List Unique ID Type (UIT).
@ID	1	A unique identifying value assigned by the creating system. The ID attribute may be used to reference a primary-key value within a database or in a particular implementation.
@ID_Context	1	Used to identify the source of the identifier (e.g., IATA, ABTA).
OTA_ReadRQ / ReadRequests / ReadRequest / UniqueID	0..1	The booking reference for the reservation.
@Type	1	A reference to the type of object defined by the UniqueID element. Refer to OpenTravel Code List Unique ID Type (UIT).
@ID	1	A unique identifying value assigned by the creating system. The ID attribute may be used to reference a primary-key value within a database or in a particular implementation.
@ID_Context	1	Used to identify the source of the identifier (e.g., IATA, ABTA).
OTA_ReadRQ / ReadRequests / ReadRequest / Verification / PersonName	0..1	Detailed name information
@PartialName	1	When true the full name is not provided.
OTA_ReadRQ / ReadRequests / ReadRequest / Verification / PersonName / GivenName		Given name, first name or names.
OTA_ReadRQ / ReadRequests / ReadRequest / Verification / PersonName / SurName	0..1	Family name, last name.
OTA_ReadRQ / ReadRequests / ReadRequest / Verification / Email	0..1	Information on an email address.
OTA_ReadRQ / ReadRequests / ReadRequest / Verification / TelephoneInfo	0..1	Information on a telephone number.
@PhoneNumber	0..1	Telephone number assigned to a single location.
@CountryAccessCode	0..1	Code assigned by telecommunications authorities for international country access identifier.
@AreaCityCode	0..1	Code assigned for telephones in a specific region, city, or area.
OTA_ReadRQ / ReadRequests / ReadRequest / Verification / PaymentCard	0..1	Payment Card information.
@CardNumber	0..1	Credit card number embossed on the card.
@CardCode	0..1	The 2 character code of the credit card issuer.
OTA_ReadRQ / ReadRequests / ReadRequest / Verification / CustLoyalty	0..1	Program rewarding frequent use by accumulating credits for services provided by vendors.
@ExpireDate	0..1	Indicates the ending date.
@MembershipID	0..1	Unique identifier of the member in the program (membership number, account number, etc.).
@ProgramID	0..1	Identifier to indicate the company owner of the loyalty program.

Element | @Attribute	Num	Description/Contents
OTA_ReadRQ / ReadRequests / ReadRequest / Verification / ReservationTimeSpan	0..1	The start and end date of the reservation.
@End	0..1	The ending value of the time span.
@Start	0..1	The starting value of the time span.
OTA_ReadRQ / ReadRequests / ReadRequest / Verification / TPA_Extensions / RoomType	0..1	Provides details regarding rooms, usually guest rooms.
@RoomID	0..1	A string value representing the unique identification of a room if the request is looking for a specific room.
OTA_ReadRQ / ReadRequests / ReadRequest / Verification / TPA_Extensions / Document	0..1	Provides information on a specific document.
@DocID	0..1	Unique number assigned by authorities to document.
@DocType	0..1	Indicates the type of document (e.g. Passport, Military ID, Drivers License, national ID, Vaccination Certificate). Refer to OpenTravel Code List Document Type (DOC).

5.1.3 Sample Request Message

```
<?xml version="1.0" encoding="UTF-8"?>
<OTA_ReadRQ EchoToken="6cfa1ea3-df0f-497f-9aaf-e927fc11affc" TimeStamp="2010-02-12T12:26:47" Version="1.0"
xmlns="http://www.opentravel.org/OTA/2003/05" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
        <POS>
                <Source TerminalID="TRM123">
                        <RequestorID Type="18" ID="KSKSYS123"/>
                </Source>
        </POS>
        <ReadRequests>
                <ReadRequest>
                        <UniqueID Type="14" ID="RES123456"/>
                        <Verification>
                                <PersonName PartialName="false">
                                        <GivenName>John</GivenName>
                                        <Surname>Smith</Surname>
                                </PersonName>
                                <Email>john.smith@gmail.com</Email>
                                <TelephoneInfo PhoneNumber="555-1212" CountryAccessCode="1" AreaCityCode="800"/>
                                <PaymentCard CardNumber="4444333322221111"/>
                                <CustLoyalty ExpireDate="2010-08-31" MembershipID="MMB123456"
ProgramID="FRQTRV"/>
                                <ReservationTimeSpan End="2010-08-15" Start="2010-08-13"/>
                                <TPA_Extensions>
                                        <RoomType RoomID="1706"/>
                                        <Document DocID="6746783-463217643-64326" DocType="2"/>
                                </TPA_Extensions>
                        </Verification>
                </ReadRequest>
        </ReadRequests>
</OTA_ReadRQ>
```

5.1.4 Data Element Table – Response

Element | @Attribute	Num	Description/Contents
OTA_ResRetrieveRS	1	This message returns a list of reservations when an exact match on a read request could not be made or the request was to return a list of reservations meeting specified criteria.
@EchoToken	0..1	A reference for additional message identification, assigned by the requesting host system. When a request message includes an echo token the corresponding response message MUST include an echo token with an identical value.
@TimeStamp	1	Indicates the creation date and time of the message in UTC using the following format specified by ISO 8601; YYYY-MM-DDThh:mm:ssZ with time values

Element | @Attribute	Num	Description/Contents
		using the 24 hour clock (e.g. 20 November 2003, 1:59:38 pm UTC becomes 2003-11-20T13:59:38Z).
@Version	1	For all OpenTravel versioned messages, the version of the message is indicated by a decimal value.
@Target	0..1	Used to indicate whether the request is for the Test or Production system.
OTA_ResRetrieveRS / Success	0..1	The presence of the empty Success element explicitly indicates that the OpenTravel versioned message succeeded.
OTA_ResRetrieveRS / Warnings	0..1	Used in conjunction with the Success element to define one or more business errors.
OTA_ResRetrieveRS / Warnings / Warning	1..n	Used when a message has been successfully processed to report any warnings or business errors that occurred.
@Type	1	The Warning element MUST contain the Type attribute that uses a recommended set of values to indicate the warning type. The validating XSD can expect to accept values that it has NOT been explicitly coded for and process them by using Type ="Unknown". Refer to OpenTravel Code List Error Warning Type (EWT).
@Status	0..1	If present, recommended values are those enumerated in the OTA_ErrorRS, (NotProcessed | Incomplete | Complete | Unknown) however, the data type is designated as string data, recognizing that trading partners may identify additional status conditions not included in the enumeration.
@ShortText	1	An abbreviated version of the error in textual format.
@Code	0..1	If present, this refers to a table of coded values exchanged between applications to identify errors or warnings. Refer to OpenTravel Code List Error Codes (ERR).
OTA_ResRetrieveRS / ReservationList / HotelReservation	0..n	One line in a list of hotel reservations. It may contain the reservation id, booked date, arrival and departure dates, number of nights and rooms, hotel info, guest info, and room info.
OTA_ResRetrieveRS / ReservationList / HotelReservation / POS / Source / RequestorID	1	An identifier of the entity making the request (e.g. ATA/IATA/ID number, Electronic Reservation Service Provider (ERSP), Association of British Travel Agents (ABTA)).
@Type	0..1	A reference to the type of object defined by the UniqueID element. Refer to OpenTravel Code List Unique ID Type (UIT).
@ID_Context	0..1	Used to identify the source of the identifier (e.g., IATA, ABTA).
@ID	1	A unique identifying value assigned by the creating system. The ID attribute may be used to reference a primary-key value within a database or in a particular implementation.
OTA_ResRetrieveRS / ReservationList / HotelReservation / UniqueID	1	Used to provide PMS and/or CRS identifiers.
@Type	1	A reference to the type of object defined by the UniqueID element. Refer to OpenTravel Code List Unique ID Type (UIT).
@ID	1	A unique identifying value assigned by the creating system. The ID attribute may be used to reference a primary-key value within a database or in a particular implementation.
@ID_Context	1	Used to identify the source of the identifier (e.g., IATA, ABTA).
OTA_ResRetrieveRS / ReservationList / HotelReservation / RoomStays	0..n	Collection of room stays.
OTA_ResRetrieveRS / ReservationList / HotelReservation / RoomStays / RoomStay	0..n	Details on the Room Stay including Guest Counts, Time Span of this Room Stay, pointers to Res Guests, guest Memberships, Comments and Special Requests pertaining to this particular Room Stay and finally finacial information related to the Room Stay, including Guarantee, Deposit and Payment and Cancellation Penalties.
@RoomStayStatus	1	Indicates the status of the reservation.
OTA_ResRetrieveRS / ReservationList / HotelReservation / RoomStays / RoomStay / RoomTypes	1	A collection of Room Types associated with a particular Room Stay.

Element | @Attribute	Num	Description/Contents
OTA_ResRetrieveRS / ReservationList / HotelReservation / RoomStays / RoomStay / RoomTypes / RoomType	1	Provides details regarding rooms, usually guest rooms.
@NonSmoking	0..1	Non-smoking indicator.
@RoomTypeCode	1	Specific system room type code, ex: A1K, A1Q etc.
@Composite		Indicates that the room (suite) is a composite of smaller units.
@RoomID	0..1	A string value representing the unique identification of a room if the request is looking for a specific room.
@NumberOfUnits	1	The number of rooms.
@Floor	0..1	Floor on which the room is located.
OTA_ResRetrieveRS / ReservationList / HotelReservation / RoomStays / RoomStay / RoomTypes / RoomType / RoomDescription / Text	0..1	Textual information regarding the room.
@Language	0..1	Language identification.
OTA_ResRetrieveRS / ReservationList / HotelReservation / RoomStays / RoomStay / RoomTypes / RoomType / AdditionalDetails / AdditionalDetail / DetailDescription / Text	1	Used to define the type of information being sent (e.g., rate description, property description, room information). Refer to OpenTravel Code List Additional Detail Type (ADT).
@Language	0..1	Language identification.
OTA_ResRetrieveRS / ReservationList / HotelReservation / RoomStays / RoomStay / RoomTypes / RoomType / Occupancy	0..1	Provides parameters of occupancy limits.
@MaxOccupancy	1	Maximum number of persons allowed in a unit of accommodation or place.
OTA_ResRetrieveRS / ReservationList / HotelReservation / RoomStays / RoomStay / RatePlans / RatePlan	1	Defines the details of the rate plan as used in the booking process.
@PriceViewableInd	1	When true, the price for this rate plan can be viewed by the guest. When false, the guest must contact another entity to obtain price information
@RatePlanCode	1	A string value may be used to request a particular code or an ID if the guest qualifies for a specific rate, such as AARP, AAA, a corporate rate, etc., or to specify a negotiated code as a result of a negotiated rate.
@PrepaidIndicator	0..1	When true, indicates if the rate is a prepaid rate.
@RatePlanName	1	Provides the name of the rate plan or group. Typically used with RatePlanType to further describe the rate plan.
OTA_ResRetrieveRS / ReservationList / HotelReservation / RoomStays / RoomStay / GuestCounts	0..1	A collection of Guest Counts associated with Room Stay. A child Guest Count element is required for each distinct age group.
@IsPerRoom	0..1	IsPerRoom means that the guests defined in the GuestCounts object apply to each room in the NumberOfRooms for the RoomStay. Value of "false" means that the guests defined in the GuestCounts object apply to all rooms combined in the NumberOfRooms for the RoomStay.
OTA_ResRetrieveRS / ReservationList /	0..n	A recurring element that identifies the number of guests and ages of the guests.

Element | @Attribute	Num	Description/Contents
HotelReservation / RoomStays / RoomStay / GuestCounts / GuestCount		
@AgeQualifyingCode	1	A code representing a business rule that determines the charges for a guest based upon age range (e.g. Adult, Child, Senior, Child With Adult, Child Without Adult). This attribute allows for an increase in rate by occupant class. Refer to OpenTravel Code List Age Qualifying Code (AQC).
@Count	1	The number of guests in one AgeQualifyingCode or Count.
OTA_ResRetrieveRS / ReservationList / HotelReservation / RoomStays / RoomStay / TimeSpan	1	The Time Span which covers the Room Stay.
@End	1	The ending value of the time span.
@Start	1	The starting value of the time span.
OTA_ResRetrieveRS / ReservationList / HotelReservation / RoomStays / RoomStay / Guarantee	1	GuaranteeType An enumerated type defining the guarantee to be applied to this reservation.
@GuaranteeCode	1	Guarantee Code.
OTA_ResRetrieveRS / ReservationList / HotelReservation / RoomStays / RoomStay / Guarantee / GuaranteesAccepted / PaymentCard	0..1	Identification about a specific credit card.
@MaskedCardNumber	1	May be used to send a concealed credit card number (e.g., xxxxxxxxxxxx9922).
@CardCode	0..1	The 2 character code of the credit card issuer.
@ExpireDate	0..1	Indicates the ending date.
OTA_ResRetrieveRS / ReservationList / HotelReservation / RoomStays / RoomStay / Total	1	The total amount charged for the Room Stay including additional occupant amounts and fees. If TaxInclusive is set to True, then taxes are included in the total amount.
@AmountBeforeTax	0..1	The total amount not including any associated tax (e.g., sales tax, VAT, GST or any associated tax).
@AmountAfterTax	0..1	The total amount including all associated taxes (e.g., sales tax, VAT, GST or any associated tax).
@CurrencyCode	0..1	The code specifying a monetary unit. Use ISO 4217, three alpha code.
@DecimalPlaces	1	Indicates the number of decimal places for a particular currency. This is equivalent to the ISO 4217 standard "minor unit". Typically used when the amount provided includes the minor unit of currency without a decimal point (e.g., USD 8500 needs DecimalPlaces="2" to represent $85).
OTA_ResRetrieveRS / ReservationList / HotelReservation / RoomStays / RoomStay / Memberships / Membership	0..n	The Membership object identifies the frequent customer reward program and (optionally) indicates points awarded for stay activity.
@AccountID	1	The account identification number for this particular member in this particular program.
@BonusCode	0..1	The code or name of the bonus program. BonusCode can be used to indicate the level of membership (Gold Club, Platinum member, etc.)
@TravelSector	0..1	Identifies the travel sector. Refer to OpenTravel Code List Travel Sector (TVS).
@ProgramCode	0..1	The code or name of the membership program ('Hertz', 'AAdvantage', etc.).
@PointsEarned	0..1	The total number of points earned through the selected membership.

Element | @Attribute	Num	Description/Contents
OTA_ResRetrieveRS / ReservationList / HotelReservation / RoomStays / RoomStay / Comments / Comment /	0..1	Comment details.
@GuestViewable	1	When true, the comment may be shown to the consumer. When false, the comment may not be shown to the consumer.
OTA_ResRetrieveRS / ReservationList / HotelReservation / RoomStays / RoomStay / Comments / Comment / Text	1	Textual information regarding the room stay.
@Language	0..1	Language identification.
OTA_ResRetrieveRS / ReservationList / HotelReservation / RoomStays / RoomStay /SpecialRequests / SpecialRequest /	0..1	The SpecialRequest object indicates special requests for a particular guest, service or reservation. Each of these may be independent of any that are tied to the profile (see Profile Synchronization standard).
@RequestCode	0..1	This identifies a special request for this reservation and is typically hotel-specific.
@Name	1	
OTA_ResRetrieveRS / ReservationList / HotelReservation / RoomStays / RoomStay /SpecialRequests / SpecialRequest / Text	0..1	
@Language	0..1	Language identification.
OTA_ResRetrieveRS / ReservationList / HotelReservation / Services / Service	0..1	A Service object represents a non-room product provided to guests. Service products may have associated inventory and charges.
@RatePlanCode	0..1	The representation of the rate plan under which this service was booked.
@ReservationStatusType	0..1	An enumerated type that defines the status of the reservation for this service.
@Inclusive	0..1	Whether the price for this service is included in the room rate.
@ServiceInventoryCode	0..1	The representation of the specific service being reserved.
@Quantity	0..1	The number of tickets, rounds of golf, etc. Also serves as the number of persons when pricing class is per person or per person per night.
@ServicePricingType	0..1	An enumerated type that defines how a service is priced. Values: Per stay, Per person, Per night, Per person per night, Per use.
OTA_ResRetrieveRS / ReservationList / HotelReservation / Services / Service / Price	0..1	The selling price of this service.
@ExpireDate	0..1	Indicates the ending date.
@EffectiveDate	0..1	Indicates the starting date.
OTA_ResRetrieveRS / ReservationList / HotelReservation / Services / Service / Price / Total	0..1	The total amount charged for the service including additional amounts and fees.
@AmountBeforeTax	0..1	The total amount not including any associated tax (e.g., sales tax, VAT, GST or any associated tax).
@AmountAfterTax	0..1	The total amount including all associated taxes (e.g., sales tax, VAT, GST or any associated tax).
@CurrencyCode	0..1	The code specifying a monetary unit. Use ISO 4217, three alpha code.

Element | @Attribute	Num	Description/Contents
@DecimalPlaces	1	Indicates the number of decimal places for a particular currency. This is equivalent to the ISO 4217 standard "minor unit". Typically used when the amount provided includes the minor unit of currency without a decimal point (e.g., USD 8500 needs DecimalPlaces="2" to represent $85).
OTA_ResRetrieveRS / ReservationList / HotelReservation / Services / Service / Price / Total / Taxes	0..1	A collection of taxes.
@CurrencyCode	0..1	The code specifying a monetary unit. Use ISO 4217, three alpha code.
@DecimalPlaces	1	Indicates the number of decimal places for a particular currency. This is equivalent to the ISO 4217 standard "minor unit". Typically used when the amount provided includes the minor unit of currency without a decimal point (e.g., USD 8500 needs DecimalPlaces="2" to represent $85).
@Amount	1	
OTA_ResRetrieveRS / ReservationList / HotelReservation / ResGuests / ResGuest / Profiles / ProfileInfo / UniqueID	1	An identifier of the entity making the request (e.g. ATA/IATA/ID number, Electronic Reservation Service Provider (ERSP), Association of British Travel Agents (ABTA)).
@Type	1	A reference to the type of object defined by the UniqueID element. Refer to OpenTravel Code List Unique ID Type (UIT).
@ID_Context	0..1	Used to identify the source of the identifier (e.g., IATA, ABTA).
@ID	1	A unique identifying value assigned by the creating system. The ID attribute may be used to reference a primary-key value within a database or in a particular implementation.
OTA_ResRetrieveRS / ReservationList / HotelReservation / ResGuests / ResGuest / Profiles / ProfileInfo / UniqueID	1	An identifier of the entity making the request (e.g. ATA/IATA/ID number, Electronic Reservation Service Provider (ERSP), Association of British Travel Agents (ABTA)).
@Type	1	A reference to the type of object defined by the UniqueID element. Refer to OpenTravel Code List Unique ID Type (UIT).
@ID_Context	0..1	Used to identify the source of the identifier (e.g., IATA, ABTA).
@ID	1	A unique identifying value assigned by the creating system. The ID attribute may be used to reference a primary-key value within a database or in a particular implementation.
OTA_ResRetrieveRS / ReservationList / HotelReservation / ResGuests / ResGuest / Profiles / ProfileInfo / Profile / Customer	1	Contains basic data on the customer's identity, location, relationships, finances, memberships, etc.
@BirthDate	0..1	Identifies the birth date of the customer.
@Gender	0..1	The gender of the document holder.
OTA_ResRetrieveRS / ReservationList / HotelReservation / ResGuests / ResGuest / Profiles / ProfileInfo / Profile / Customer / PersonName / GivenName	1	Given name, first name or names.
OTA_ResRetrieveRS / ReservationList / HotelReservation / ResGuests / ResGuest / Profiles / ProfileInfo / Profile / Customer / PersonName / MiddleName	0..1	The middle name of the person name
OTA_ResRetrieveRS / ReservationList / HotelReservation / ResGuests /	1	Family name, last name.

Element | @Attribute	Num	Description/Contents
ResGuest / Profiles / ProfileInfo / Profile / Customer / PersonName / Surname		
OTA_ResRetrieveRS / ReservationList / HotelReservation / ResGuests / ResGuest / Profiles / ProfileInfo / Profile / Customer / PersonName / NameSuffix	0..1	Hold various name suffixes and letters (e.g. Jr., Sr., III, Ret., Esq.).
OTA_ResRetrieveRS / ReservationList / HotelReservation / ResGuests / ResGuest / Profiles / ProfileInfo / Profile / Customer / PersonName / NamePrefix	0..1	Salutation of honorific. (e.g., Mr. Mrs., Ms., Miss, Dr.)
OTA_ResRetrieveRS / ReservationList / HotelReservation / ResGuests / ResGuest / Profiles / ProfileInfo / Profile / Customer / Telephone	0..1	Detailed telephone information.
@PhoneNumber	1	Information about a telephone number, including the actual number and its usage
@CountryAccessCode	0..1	Code assigned by telecommunications authorities for international country access identifier.
@AreaCityCode	0..1	Code assigned for telephones in a specific region, city, or area.
OTA_ResRetrieveRS / ReservationList / HotelReservation / ResGuests / ResGuest / Profiles / ProfileInfo / Profile / Customer / Email	0..5	Electronic email addresses, in IETF specified format.
OTA_ResRetrieveRS / ReservationList / HotelReservation / ResGuests / ResGuest / Profiles / ProfileInfo / Profile / Customer / Address	0..99	Detailed information on an address for the customer.
@Type	0..1	Defines the type of address (e.g. home, business, other). Refer to OpenTravel Code List Communication Location Type (CLT).
OTA_ResRetrieveRS / ReservationList / HotelReservation / ResGuests / ResGuest / Profiles / ProfileInfo / Profile / Customer / Address / AddressLine	0..5	When the address is unformatted (FormattedInd="false") these lines will contain free form address details. When the address is formatted and street number and street name must be sent independently, the street number will be sent using StreetNmbr, and the street name will be sent in the first AddressLine occurrence.
OTA_ResRetrieveRS / ReservationList / HotelReservation / ResGuests / ResGuest / Profiles / ProfileInfo / Profile / Customer / Address / CityName	0..1	City (e.g., Dublin), town, or postal station (i.e., a postal service territory, often used in a military address).
OTA_ResRetrieveRS / ReservationList / HotelReservation / ResGuests / ResGuest / Profiles / ProfileInfo / Profile / Customer / Address / PostalCode	0..1	Post Office Code number.
OTA_ResRetrieveRS / ReservationList / HotelReservation / ResGuests / ResGuest / Profiles / ProfileInfo / Profile / Customer / Address /	0..1	State or Province name (e.g., Texas).

Element | @Attribute	Num	Description/Contents
StateProv		
OTA_ResRetrieveRS / ReservationList / HotelReservation / ResGuests / ResGuest / Profiles / ProfileInfo / Profile / Customer / Address / CountryName	0..1	Country name (e.g., Ireland).
OTA_ResRetrieveRS / ReservationList / HotelReservation / ResGuests / ResGuest / Profiles / ProfileInfo / Profile / Customer / Address / CompanyName	0..1	Identifies a company by name.
OTA_ResRetrieveRS / ReservationList / HotelReservation / ResGuests / ResGuest / Profiles / ProfileInfo / Profile / Customer / CitizenCountryName	0..3	Name of the (self-professed) country that is claimed for citizenship.
@DefaultInd		When true, indicates a default value should be used.
@Code	0..1	A 2 character country code as defined in ISO3166.
OTA_ResRetrieveRS / ReservationList / HotelReservation / ResGuests / ResGuest / Profiles / ProfileInfo / Profile / Customer / Document	0..1	Provides information on a specific document.
@DocIssueCountry	0..1	Country where the document was issued.
@DocHolderNationality	0..1	The country code of the nationality of the document holder.
@ExpireDate	0..1	Indicates the ending date.
@EffectiveDate	0..1	Indicates the starting date.
@BirthDate	0..1	Indicates the date of birth as indicated in the document, in ISO 8601 prescribed format.
@BirthPlace	0..1	Specifies the birth place of the document holder (e.g., city, state, county, province), when designating a country of birth, use BirthCountry.
@Gender	0..1	Identifies the gender.
@DocID	0..1	Unique number assigned by authorities to document.
OTA_ResRetrieveRS / ReservationList / HotelReservation / ResGuests / ResGuest / Profiles / ProfileInfo / Profile / Customer / CustLoyalty	0..1	
@AllianceLoyaltyLevelName	0..1	Name of the alliance loyalty level (e.g., OneWorld uses Emerald, Ruby, etc and SkyTeam uses Elite, etc.).
@ExpireDate	0..1	Indicates the ending date.
@EffectiveDate	0..1	Indicates the starting date.

Element | @Attribute	Num	Description/Contents
@MembershipID	1	Unique identifier of the member in the program (membership number, account number, etc.).
@ProgramID	1	Identifier to indicate the company owner of the loyalty program.
OTA_ResRetrieveRS / ReservationList / HotelReservation / ResGuests / ResGuest / Profiles / ProfileInfo / Profile / CompanyInfo / CompanyName	0..1	Identifies a company by name.
@CodeContext	0..1	Identifies the context of the identifying code, such as DUNS, IATA or internal code, etc.
@CompanyShortName	0..1	Used to provide the company common name.
@Code	0..1	Identifies a company by the company code.
OTA_ResRetrieveRS / ReservationList / HotelReservation / ResGuests / ResGuest / Profiles / ProfileInfo / Profile / CompanyInfo / AddressInfo	0..1	Detailed information on an address for the company.
@Type	0..1	Defines the type of address (e.g. home, business, other). Refer to OpenTravel Code List Communication Location Type (CLT).
OTA_ResRetrieveRS / ReservationList / HotelReservation / ResGuests / ResGuest / Profiles / ProfileInfo / Profile / CompanyInfo / AddressInfo	0..1	Detailed information on an address for the company.
OTA_ResRetrieveRS / ReservationList / HotelReservation / ResGuests / ResGuest / Profiles / ProfileInfo / Profile / CompanyInfo / AddressInfo / AddressLine	0..1	When the address is unformatted (FormattedInd="false") these lines will contain free form address details. When the address is formatted and street number and street name must be sent independently, the street number will be sent using StreetNmbr, and the street name will be sent in the first AddressLine occurrence.
OTA_ResRetrieveRS / ReservationList / HotelReservation / ResGuests / ResGuest / Profiles / ProfileInfo / Profile / CompanyInfo / AddressInfo / CityName	0..1	City (e.g., Dublin), town, or postal station (i.e., a postal service territory, often used in a military address).
OTA_ResRetrieveRS / ReservationList / HotelReservation / ResGuests / ResGuest / Profiles / ProfileInfo / Profile / CompanyInfo / AddressInfo / PostalCode	0..1	Post Office Code number.
OTA_ResRetrieveRS / ReservationList / HotelReservation / ResGuests / ResGuest / Profiles / ProfileInfo / Profile / CompanyInfo / AddressInfo / StateProv	0..1	State or Province name (e.g., Texas).
OTA_ResRetrieveRS / ReservationList / HotelReservation / ResGuests / ResGuest / Profiles / ProfileInfo / Profile / CompanyInfo / AddressInfo / CountryName	0..1	The name or code of a country (e.g. as used in an address or to specify citizenship of a traveler)

Element | @Attribute	Num	Description/Contents
OTA_ResRetrieveRS / ReservationList / HotelReservation / ResGuests / ResGuest / Profiles / ProfileInfo / Profile / CompanyInfo / TelephoneInfo	0..1	Information on a telephone number for the company.
@PhoneNumber	1	Telephone number assigned to a single location.
@CountryAccessCode	0..1	Code assigned by telecommunications authorities for international country access identifier.
@AreaCityCode	0..1	Code assigned for telephones in a specific region, city, or area.
OTA_ResRetrieveRS / ReservationList / HotelReservation / ResGuests / ResGuest / Profiles / ProfileInfo / Profile / CompanyInfo / Email	0..1	Information on an email address for the company.
OTA_ResRetrieveRS / ReservationList / HotelReservation / ResGlobalInfo / HotelReservationIDs	1	ResGlobalInfo is a container for various information that affects the Reservation as a whole. These include global comments, counts, reservation IDs, loyalty programs, and payment methods.
OTA_ResRetrieveRS / ReservationList / HotelReservation / ResGlobalInfo / HotelReservationIDs / HotelReservationID	1	The HotelReservationID object contains various unique (ReservationID) and non unique (ConfirmationID, CancellationID) identifiers that the trading partners associate with a given reservation.
@ResID_Type	0..1	Defines the type of Reservation ID (e.g. reservation number, cancellation number). Refer to OpenTravel Code List Unique ID Type (UIT).
@ResID_Value	1	This is the actual value associated with ResID_Type as generated by the system that is the source of the ResID_Type
@ResID_Source	0..1	A unique identifier to indicate the source system which generated the ResID_Value.

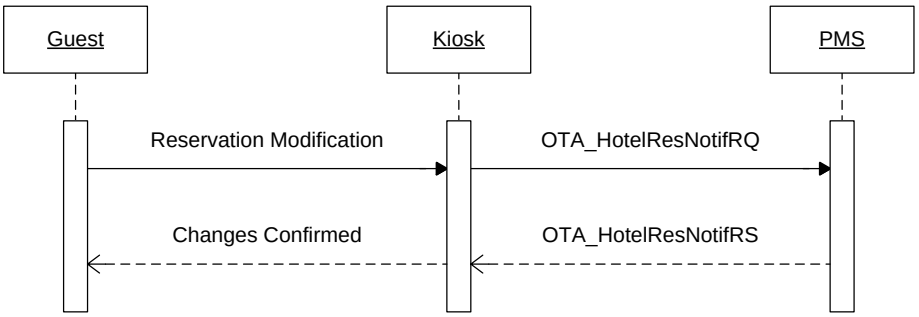
5.1.5 Sample Response Message

```
<?xml version="1.0" encoding="UTF-8"?>
<OTA_ResRetrieveRS EchoToken="6cfa1ea3-df0f-497f-9aaf-e927fc11affc" TimeStamp="2010-02-12T12:26:47"
Version="1.0" xmlns="http://www.opentravel.org/OTA/2003/05" xmlns:xsi="http://www.w3.org/2001/XMLSchema-
instance">
        <Success/>
        <ReservationsList>
                <HotelReservation>
                        <UniqueID Type="14" ID="RES123456"/>
                        <RoomStays>
                                <RoomStay RoomStayStatus="Reserved">
                                        <RoomTypes>
                                                <RoomType NonSmoking="true" RoomTypeCode="KING" RoomID="1706">
                                                        <RoomDescription>
                                                                <Text Language="en-us">King Room</Text>
                                                        </RoomDescription>
                                                </RoomType>
                                        </RoomTypes>
                                        <RatePlans>
                                                <RatePlan PriceViewableInd="true" RatePlanCode="RAT123"
PrepaidIndicator="false" RatePlanName="Standard Rate"/>
                                        </RatePlans>
                                        <GuestCounts>
                                                <GuestCount AgeQualifyingCode="10" Count="1"/>
                                        </GuestCounts>
                                        <TimeSpan End="2010-08-15" Start="2010-08-13"/>
                                        <Guarantee GuaranteeCode="C">
```

```
                                        <GuaranteesAccepted>
                                                <GuaranteeAccepted>
                                                        <PaymentCard MaskedCardNumber="XXXXXXXXXXXX1111"
CardCode="VI" ExpireDate="0113"/>
                                                </GuaranteeAccepted>
                                        </GuaranteesAccepted>
                                </Guarantee>
                                <Total AmountBeforeTax="0"/>
                                <Memberships>
                                        <Membership AccountID=" MMB123456" ProgramCode="FRQTRV"/>
                                </Memberships>
                        </RoomStay>
                </RoomStays>
                <ResGuests>
                        <ResGuest>
                                <Profiles>
                                        <ProfileInfo>
                                                <UniqueID Type="1" ID="PRF1234456”/>
                                                <Profile>
                                                        <Customer BirthDate="1967-08-13" Gender="Male">
                                                                <PersonName>
                                                                        <NamePrefix>Mr.</NamePrefix>
                                                                        <GivenName>John</GivenName>
                                                                        <MiddleName>A</MiddleName>
                                                                        <Surname>Smith</Surname>
                                                                </PersonName>
                                                                <Telephone PhoneNumber="555-1212"
CountryAccessCode="1" AreaCityCode="800"/>
                                                                <Email>john.smith@gmail.com</Email>
                                                                <Address Type="2">
                                                                        <AddressLine>101 Main
Street</AddressLine>
                                                                        <CityName>Anytown</CityName>
                                                                        <PostalCode>PA</PostalCode>
                                                                        <StateProv>01234</StateProv>
                                                                        <CountryName>US</CountryName>
                                                                </Address>
                                                                <Document DocIssueCountry="US"
ExpireDate="2013-08-31" EffectiveDate="2003-09-01" BirthDate="1967-08-13" BirthPlace="NY, NY" Gender="Male"
DocID=" 6746783-463217643-64326"/>
                                                                <CustLoyalty ExpireDate="2010-08-31"
MembershipID="MMB123456" ProgramID="FRQTRV"/>
                                                        </Customer>
                                                </Profile>
                                        </ProfileInfo>
                                </Profiles>
                        </ResGuest>
                </ResGuests>
                <ResGlobalInfo>
                        <HotelReservationIDs>
                                <HotelReservationID ResID_Type="14" ResID_Value="RES123456"/>
                        </HotelReservationIDs>
                </ResGlobalInfo>
        </HotelReservation>
    </ReservationsList>
</OTA_ResRetrieveRS>
```

5.2 Modify Booking

5.2.1 Messaging Use Case



Use Case Name:	**Modify Booking**
Summary:	The guest changes some elements of his booking and saves the changes: name, change departure date, request alternate room and additional services, select pay method and attached profile.
Basic Course of Events:	**The Use Case Begins when the Guest elects to Change elements of the booking** 1) The Guest navigates through the Kiosk User Interface to change various parts of his Booking. - Name - select pay method 2) Based on the Booking Rules the PMS may prevent the Kiosk from changing some parts of the booking 3) When the Guest has made all changes to the booking the User accepts the changes 4) The Kiosk sends all changes to the PMS 5) The PMS commits the Changes **The Use Case Ends when the Guest has made the changes he needs to finalize its booking.**
Exception Path:	In Step 5, The PMS detects that the bookings has been updated since the Kiosk retrieved the information 1. The PMS sends an error message to the Kiosk 2. The Kiosk retrieves the booking again and updates with the user selection and re submits, or asks the Guest to remake the changes. In Step 5, the PMS cannot confirm the changes requested by the Guest: 3. The PMS sends an error message to the Kiosk 4. The Kiosk retrieves the booking again and updates with the user selection and re submits, or asks the Guest to remake the changes.
Trigger:	The guest elects to change his booking
Assumptions:	The Kiosk has retrieved the full booking.
Preconditions:	The Booking has not been updated
Postconditions:	The Booking has been updated

5.2.2 Data Element Table – Request

Element | @Attribute	Num	Description/Contents
OTA_HotelResNotifRQ	1	Hotel Reservation Notif Request supports the functionality of updating other systems with reservation data. The message assumes a push model, with the originating system pushing the data to another system. The originating system would usually be a booking source, such as a Global Distribution System (GDS), a Central Reservation System (CRS) or some other agent of the hotel.

Element | @Attribute	Num	Description/Contents
@EchoToken	0..1	A reference for additional message identification, assigned by the requesting host system. When a request message includes an echo token the corresponding response message MUST include an echo token with an identical value.
@ResStatus	1	To specify the type of action requested when more than one function could be handled by the message. The value should be '**Modify**'.
@TimeStamp	0..1	Indicates the creation date and time of the message in UTC using the following format specified by ISO 8601; YYYY-MM-DDThh:mm:ssZ with time values using the 24 hour clock (e.g. 20 November 2003, 1:59:38 pm UTC becomes 2003-11-20T13:59:38Z).
@Version	1	For all OTA versioned messages, the version of the message is indicated by a decimal value.
@Target	0..1	Used to indicate whether the request is for the Test or Production system. Value can be either 'Test' or 'Production'.
OTA_HotelResNotifRQ / POS / Source	1	Provides information on the source of a request.
@TerminalID	0..1	This is the electronic address of the device from which information is entered.
OTA_HotelResNotifRQ / POS / Source / RequestorID	0..1	An identifier of the entity making the request (e.g. ATA/IATA/ID number, Electronic Reservation Service Provider (ERSP), Association of British Travel Agents (ABTA)).
@Type	1	A reference to the type of object defined by the UniqueID element. Refer to OTA Code List Unique ID Type (UIT).
@ID		A unique identifying value assigned by the creating system. The ID attribute may be used to reference a primary-key value within a database or in a particular implementation.
@ID_Context	0..1	Used to identify the source of the identifier (e.g., IATA, ABTA).
OTA_HotelResNotifRQ / HotelReservations / HotelReservation	1	The Reservation class contains the current reservation being created or altered.
@RoomStayReservation	0..1	Boolean True if this reservation is reserving rooms. False if it is only reserving services.
OTA_HotelResNotifRQ / HotelReservations / HotelReservation / UniqueID		The booking reference for the reservation.
@Type	1	A reference to the type of object defined by the UniqueID element. Refer to OTA Code List Unique ID Type (UIT).
@ID		A unique identifying value assigned by the creating system. The ID attribute may be used to reference a primary-key value within a database or in a particular implementation.
@ID_Context	0..1	Used to identify the source of the identifier (e.g., IATA, ABTA).
OTA_HotelResNotifRQ / HotelReservations / HotelReservation / RoomStays / RoomStay / Guarantee / GuaranteesAccepted / GuaranteeAccepted / PaymentCard	0..1	Payment Card information.
@CardNumber	0..1	Credit card number embossed on the card.
@CardType	0..1	Indicates the type of magnetic striped card. Refer to OTA Code ListCard Type (CDT)
@CardCode	0..1	The 2 character code of the credit card issuer.
@ExpiryDate	0..1	Indicates the ending date.

Element | @Attribute	Num	Description/Contents
OTA_HotelResNotifRQ / HotelReservations / HotelReservation / RoomStays / RoomStay / Guarantee / GuaranteesAccepted / GuaranteeAccepted / PaymentCard / CardHolderName	0..1	The name embossed on the card.
OTA_HotelResNotifRQ / HotelReservations / HotelReservation / ResGuests / ResGuest / Profiles / ProfileInfo	0..1	Root element for profile content.
OTA_HotelResNotifRQ / HotelReservations / HotelReservation / ResGuests / ResGuest / Profiles / ProfileInfo / UniqueID	1	An identifier of the entity making the request (e.g. ATA/IATA/ID number, Electronic Reservation Service Provider (ERSP), Association of British Travel Agents (ABTA)).
@Type	1	A reference to the type of object defined by the UniqueID element. Refer to OTA Code List Unique ID Type (UIT).
@ID	1	A reference to the type of object defined by the UniqueID element. Refer to OpenTravel Code List Unique ID Type (UIT).
@ID_Context	0..1	Used to identify the source of the identifier (e.g., IATA, ABTA).
OTA_HotelResNotifRQ / HotelReservations / HotelReservation / ResGuests / ResGuest / Profiles / ProfileInfo / Profile	1	Root element for profile content.
@ProfileType	0..n	Code to specify a profile such as Customer, Tour Operator, Corporation, etc. Refer to OTA Code List Profile Type (PRT).
OTA_HotelResNotifRQ / HotelReservations / HotelReservation / ResGuests / ResGuest / Profiles / ProfileInfo / Customer / PersonName / NamePrefix	0..1	Salutation of honorific. (e.g., Mr. Mrs. Ms. Miss, Dr.)
OTA_HotelResNotifRQ / HotelReservations / HotelReservation / ResGuests / ResGuest / Profiles / ProfileInfo / Customer / PersonName / GivenName	0..1	Given name, first name or names
OTA_HotelResNotifRQ / HotelReservations / HotelReservation / ResGuests / ResGuest / Profiles / ProfileInfo / Customer / PersonName / MiddleName	0..1	The middle name of the person name
OTA_HotelResNotifRQ / HotelReservations / HotelReservation / ResGuests / ResGuest / Profiles / ProfileInfo / Customer / PersonName / SurnamePrefix	0..1	e.g “van der”, “von”, “de”
OTA_HotelResNotifRQ / HotelReservations / HotelReservation / ResGuests / ResGuest / Profiles / ProfileInfo / Customer / PersonName / Surname	0..1	Family name, last name.

Element | @Attribute	Num	Description/Contents
OTA_HotelResNotifRQ / HotelReservations / HotelReservation / ResGuests / ResGuest / Profiles / ProfileInfo / Customer / PersonName / NameSuffix	0..1	Hold various name suffixes and letters (e.g. Jr., Sr. III, Ret., Esq.).
OTA_HotelResNotifRQ / HotelReservations / HotelReservation / ResGuests / ResGuest / Profiles / ProfileInfo / Customer / PersonName / NameTitle	0..1	Degree or honors (e.g., Ph.D., M.D.)

5.2.3 Modifying the card on file

Sample Request Message

```
<?xml version="1.0" encoding="UTF-8"?>
<OTA_HotelResNotifRQ EchoToken="5a7ae570-93fe-46b1-abd5-3ca882982a02" ResStatus="Modify" TimeStamp="2010-02-
12T12:26:47" Version="1.0" xmlns="http://www.opentravel.org/OTA/2003/05"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
        <POS>
                <Source TerminalID="TRM123">
                        <RequestorID Type="18" ID="KSKSYS123"/>
                </Source>
        </POS>
        <HotelReservations>
                <HotelReservation>
                        <UniqueID Type="14" ID="RES123456"/>
                        <RoomStays>
                                <RoomStay>
                                        <Guarantee>
                                                <GuaranteesAccepted>
                                                        <GuaranteeAccepted>
                                                                <PaymentCard CardNumber="4444333322221111"
CardCode="VI" ExpireDate="0113">
                                                                        <CardHolderName>a</CardHolderName>
                                                                </PaymentCard>
                                                        </GuaranteeAccepted>
                                                </GuaranteesAccepted>
                                        </Guarantee>
                                </RoomStay>
                        </RoomStays>
                </HotelReservation>
        </HotelReservations>
</OTA_HotelResNotifRQ>
```

Sample Response Message

```
<?xml version="1.0" encoding="UTF-8"?>
<OTA_HotelResNotifRS EchoToken="5a7ae570-93fe-46b1-abd5-3ca882982a02" TimeStamp="2010-02-12T12:26:47"
Version="1.0" xmlns="http://www.opentravel.org/OTA/2003/05" xmlns:xsi="http://www.w3.org/2001/XMLSchema-
instance">
        <Success/>
</OTA_HotelResNotifRS>
```

5.2.4 Assigning a guest room

Sample Request Message

```
<?xml version="1.0" encoding="UTF-8"?>
<OTA_HotelResNotifRQ EchoToken="94124645-94e5-4605-9256-9b833a534ef7" ResStatus="Modify" TimeStamp="2010-02-
12T12:26:47" Version="1.0" xmlns="http://www.opentravel.org/OTA/2003/05"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
```

```
        <POS>
                <Source TerminalID="a">
                        <RequestorID Type="18" ID="KSKSYS123"/>
                </Source>
        </POS>
        <HotelReservations>
                <HotelReservation>
                        <UniqueID Type="14" ID="RES123456"/>
                        <RoomStays>
                                <RoomStay>
                                        <RoomType RoomID="1701"/>
                                </RoomStay>
                        </RoomStays>
                </HotelReservation>
        </HotelReservations>
</OTA_HotelResNotifRQ>
```

Sample Response Message

```
<?xml version="1.0" encoding="UTF-8"?>
<OTA_HotelResNotifRS EchoToken="94124645-94e5-4605-9256-9b833a534ef7" TimeStamp="2010-02-12T12:26:47"
Version="1.0" xmlns="http://www.opentravel.org/OTA/2003/05" xmlns:xsi="http://www.w3.org/2001/XMLSchema-
instance">
        <Success/>
</OTA_HotelResNotifRS>
```

5.2.5 Update guest name

Sample Request Message

```
<?xml version="1.0" encoding="UTF-8"?>
<OTA_HotelResNotifRQ EchoToken="b349af06-fb40-491e-86fc-657c0477d6f8" ResStatus="Modify" TimeStamp="2010-02-
12T12:26:47" Version="1.0" xmlns="http://www.opentravel.org/OTA/2003/05"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
        <POS>
                <Source TerminalID="TRM123">
                        <RequestorID Type="18" ID="KSKSYS123"/>
                </Source>
        </POS>
        <HotelReservations>
                <HotelReservation>
                        <UniqueID Type="14" ID="RES123456"/>
                        <ResGuests>
                                <ResGuest Action="Add-Update">
                                        <Profiles>
                                                <ProfileInfo>
                                                        <UniqueID Type="1" ID="PRF123456"/>
                                                        <Profile>
                                                                <Customer>
                                                                        <PersonName>
                                                                                <GivenName>John</GivenName>
                                                                                <MiddleName>A</MiddleName>
                                                                                <Surname>Smith</Surname>
                                                                        </PersonName>
                                                                </Customer>
                                                        </Profile>
                                                </ProfileInfo>
                                        </Profiles>
                                </ResGuest>
                        </ResGuests>
                </HotelReservation>
        </HotelReservations>
</OTA_HotelResNotifRQ>
```

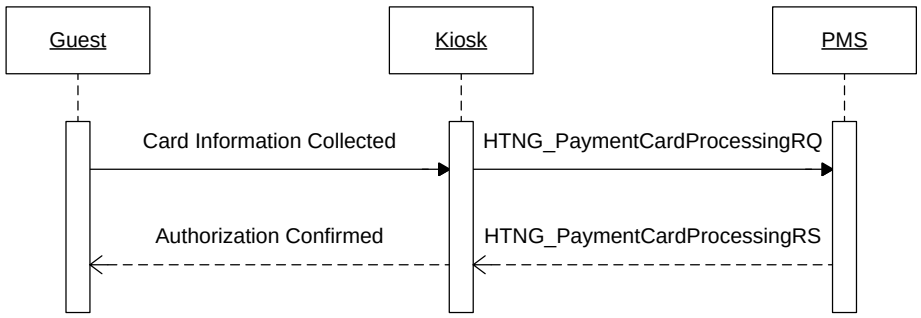
Sample Response Message

```
<?xml version="1.0" encoding="UTF-8"?>
```

```
<OTA_HotelResNotifRS EchoToken="b349af06-fb40-491e-86fc-657c0477d6f8" TimeStamp="2010-02-12T12:26:47"
Version="1.0" xmlns="http://www.opentravel.org/OTA/2003/05" xmlns:xsi="http://www.w3.org/2001/XMLSchema-
instance">
        <Success/>
</OTA_HotelResNotifRS>
```

5.3 Authorize Card

5.3.1 Messaging Use Case

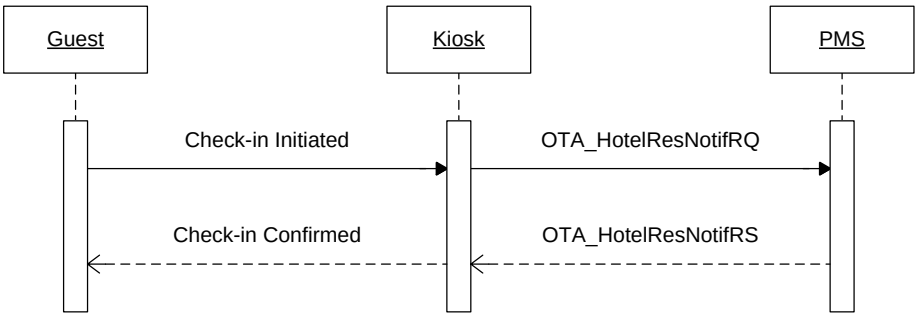


Use Case Name:	**Authorize Card - PMS**
Summary:	After John has confirmed his booking and preferences, he is required to insert his credit card in the kiosk. A payment transaction then happens and allows the kiosk to move on to finalize the check-in.
Basic Course of Events:	**The Use Case begins after John has confirmed his booking.** 1. The PMS requires a preauthorization for the stay. 2. John is asked to insert his credit card. 3. The kiosk sends the payment information to the PMS (including credit card number) and waits for payment confirmation. 4. The PMS confirms preauthorization and send authorization number to the kiosk. **The Use Case ends when the PMS confirms check-in is complete.**
Exception Path:	**In Step 5, Payment is refused.** PMS sends info to the kiosk which directs John to the desk. **In Step 1, No payment is needed.** The whole Use-Case is cancelled.
Alternative Paths:	**In Step 1, the PMS requires a prepayment instead of a preauthorization.**
Assumptions:	PMS is linked to a payment gateway.
Preconditions:	John has confirmed his booking.
Postconditions:	Required payment has been accepted.

See the HTNG Payment Systems & Data Security, Payment Processing Specification 2010A for further information on this message.

5.4 Check-In

5.4.1 Messaging Use Case



Use Case Name:	**Check In**
Summary:	The Guest checks in through the Kiosk. The Guest finds his booking by entering some ID criteria. The Kiosk validates that the combination of criteria is enough ID and requests a booking from the PMS that matches the ID criteria and is checking in today. The Guest has the ability to manage the non paying shares associated with his booking. He can change his departure date where the PMS allows him to. If he wishes he can request a list of rooms and select which room he wishes to be allocated. The list of rooms provided by the PMS may optionally include rooms of an alternate type either at the same rate or increased rate. If settling to a Payment Card, the Guest may changes his Payment card to an alternate one. The Guest may search for his profile to attach to the booking. Proceeding with the Check In the Kiosk Authorizes the Guests Payment Card and cuts one or more keys.
Basic Course of Events:	The Use Case Begins when the Guest Elects to Check in using the Self Service Kiosk. 1. The Guest provides sufficient ID to finds his booking 2. The Kiosk sends a booking search message to the PMS 3. The PMS finds the booking and returns a booking summary 4. The Kiosk displays the Booking summary and asks the Guest to confirm it. 5. The Guest optionally changes some parts of the booking as allowed by the PMS and Kiosk. The Use Case Ends when the Guest has Checked In using the self service Kiosk.
Extension Points:	• Change Guest Names • Changing Booking Departure Date • Requesting a specific Room • Selecting to change Payment Card Guaranteeing the booking • Searching for a Guest Profile • Authorizing Payment Card • Cutting a Key
Assumptions:	The Guest has a booking at the hotel and is due to arrive today.
Preconditions:	The Guest is not Checked In
Postconditions:	The Guest is Checked In.

5.4.2 Data Element Table – Request

Element | @Attribute	Num	Description/Contents
OTA_HotelResNotifRQ	1	Hotel Reservation Notif Request supports the functionality of updating other systems with reservation data. The message assumes a push model, with the originating system pushing the data to another system. The originating system would usually be a booking source, such as a Global Distribution System (GDS), a Central Reservation System (CRS) or some other agent of the hotel.
@EchoToken	0..1	A reference for additional message identification, assigned by the requesting host system. When a request message includes an echo token the corresponding response message MUST include an echo token with an identical value.
@ResStatus	1	To specify the type of action requested when more than one function could be handled by the message. The value should be '**Modify**'.
@TimeStamp	0..1	Indicates the creation date and time of the message in UTC using the following format specified by ISO 8601; YYYY-MM-DDThh:mm:ssZ with time values using the 24 hour clock (e.g. 20 November 2003, 1:59:38 pm UTC becomes 2003-11-20T13:59:38Z).
@Version	1	For all OTA versioned messages, the version of the message is indicated by a decimal value.
@Target	0..1	Used to indicate whether the request is for the Test or Production system. Value can be either 'Test' or 'Production'.
OTA_HotelResNotifRQ / POS / Source	1	Provides information on the source of a request.
@TerminalID	0..1	This is the electronic address of the device from which information is entered.
OTA_HotelResNotifRQ / POS / Source / RequestorID	0..1	An identifier of the entity making the request (e.g. ATA/IATA/ID number, Electronic Reservation Service Provider (ERSP), Association of British Travel Agents (ABTA)).
@Type	1	A reference to the type of object defined by the UniqueID element. Refer to OTA Code List Unique ID Type (UIT).
@ID	1	A unique identifying value assigned by the creating system. The ID attribute may be used to reference a primary-key value within a database or in a particular implementation.
@ID_Context	0..1	Used to identify the source of the identifier (e.g., IATA, ABTA).
OTA_HotelResNotifRQ / HotelReservations / HotelReservation	1	The Reservation class contains the current reservation being created or altered.
@RoomStatus	1	The status of the reservation. Should be "In-house" when checking-in a reservation.
OTA_HotelResNotifRQ / HotelReservations / HotelReservation / UniqueID	1	The booking reference for the reservation.
@Type	1	A reference to the type of object defined by the UniqueID element. Refer to OTA Code List Unique ID Type (UIT).
@ID	1	A unique identifying value assigned by the creating system. The ID attribute may be used to reference a primary-key value within a database or in a particular implementation.
@ID_Context	0..1	Used to identify the source of the identifier (e.g., IATA, ABTA).

5.4.3 Sample Request Message

```
<?xml version="1.0" encoding="UTF-8"?>
<OTA_HotelResNotifRQ EchoToken="2c37c576-f725-4609-bfa4-e30bd43460ca" ResStatus="Modify" TimeStamp="2010-02-12T12:26:47" Version="1.0" xmlns="http://www.opentravel.org/OTA/2003/05"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
        <POS>
```

```
                <Source TerminalID="TRM123">
                        <RequestorID Type="18" ID="KSKSYS123"/>
                </Source>
        </POS>
        <HotelReservations>
                <HotelReservation ResStatus="In-house" >
                        <UniqueID Type="14" ID="RES123456"/>
                </HotelReservation>
        </HotelReservations>
</OTA_HotelResNotifRQ>
```

5.4.4 Data Element Table – Response

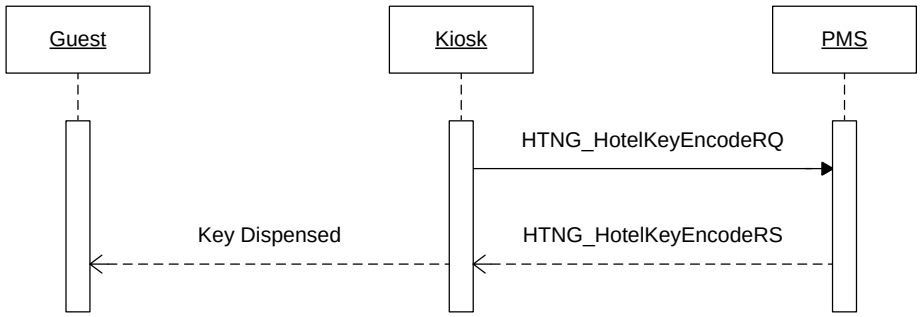
Element | @Attribute	Num	Description/Contents
OTA_HotelResNotifRS	1	Hotel Reservation Notif Request supports the functionality of updating other systems with reservation data. The message assumes a push model, with the originating system pushing the data to another system. The originating system would usually be a booking source, such as a Global Distribution System (GDS), a Central Reservation System (CRS) or some other agent of the hotel.
@EchoToken	0..1	A reference for additional message identification, assigned by the requesting host system. When a request message includes an echo token the corresponding response message MUST include an echo token with an identical value.
@TimeStamp	1	Indicates the creation date and time of the message in UTC using the following format specified by ISO 8601; YYYY-MM-DDThh:mm:ssZ with time values using the 24 hour clock (e.g. 20 November 2003, 1:59:38 pm UTC becomes 2003-11-20T13:59:38Z).
@Version	1	For all OpenTravel versioned messages, the version of the message is indicated by a decimal value.
@Target	0..1	Used to indicate whether the request is for the Test or Production system.
OTA_HotelResNotifRS / Success	0..1	The presence of the empty Success element explicitly indicates that the OpenTravel versioned message succeeded.
OTA_HotelResNotifRS / Warnings	0..1	Used in conjunction with the Success element to define one or more business errors.
OTA_HotelResNotifRS / Warnings / Warning	1..n	Used when a message has been successfully processed to report any warnings or business errors that occurred.
@Type	1	The Warning element MUST contain the Type attribute that uses a recommended set of values to indicate the warning type. The validating XSD can expect to accept values that it has NOT been explicitly coded for and process them by using Type ="Unknown". Refer to OpenTravel Code List Error Warning Type (EWT).
@Status	0..1	If present, recommended values are those enumerated in the OTA_ErrorRS, (NotProcessed | Incomplete | Complete | Unknown) however, the data type is designated as string data, recognizing that trading partners may identify additional status conditions not included in the enumeration.
@ShortText	1	An abbreviated version of the error in textual format.
@Code	0..1	If present, this refers to a table of coded values exchanged between applications to identify errors or warnings. Refer to OpenTravel Code List Error Codes (ERR).

5.4.5 Sample Response Message

```
<?xml version="1.0" encoding="UTF-8"?>
<OTA_HotelResNotifRS EchoToken="2c37c576-f725-4609-bfa4-e30bd43460ca" TimeStamp="2010-02-12T12:26:47"
Version="1.0" xmlns="http://www.opentravel.org/OTA/2003/05" xmlns:xsi="http://www.w3.org/2001/XMLSchema-
instance">
        <Success/>
</OTA_HotelResNotifRS>
```

5.5 Cut Key Request

5.5.1 Messaging Use Case



Use Case Name:	**Make Room Key**
Summary:	Kiosk requests the Key Encoding Data from PMS or from the Key System. Kiosk sends Encoding data to the card writer. One or more room keys are encoded
Basic Course of Events:	See the use-case diagram
Exception Path:	- Attempt to write a room key can end up with a hardware failure. In this case, if no keys are made, the use-case should fail. If less than requested keys are made, the completion is "partial success". - Attempt to query PMS or the Key System can end-up with a failure. In this case, no keys are made.
Alternative Paths:	See the use-case diagram**:** - **2a/2b – PMS or KeySystem request for Encoding Data**
Extension Points:	See the use-case diagram**:** - **2a/2b - PMS or KeySystem request for Encoding Data** - **4 – Encode one room key**
Trigger:	Kiosk application is ready to encode the room keys
Preconditions:	See the use-case diagram**:** - **1 – pre-conditions**
Postconditions:	Guest has the room keys

5.5.2 Data Element Table – Request

Element | @Attribute	Num	Description/Contents
HTNG_HotelKeyEncodeRQ	1	Root element of the message.
@EchoToken	1	A reference for additional message identification, assigned by the requesting host system. When a request message includes an echo token the corresponding response message MUST include an echo token with an identical value.
@TimeStamp	1	Indicates the creation date and time of the message in UTC using the following format specified by ISO 8601; YYYY-MM-DDThh:mm:ssZ with time values using the 24 hour clock (e.g. 20 November 2003, 1:59:38 pm UTC becomes 2003-11-20T13:59:38Z).
@Version	1	For all OpenTravel versioned messages, the version of the message is indicated by a decimal value.

Element | @Attribute	Num	Description/Contents
@Target	0..1	Used to indicate whether the request is for the Test or Production system.
HTNG_HotelKeyEncodeRQ / POS / Source	0..1	This holds details regarding the requestor. It may be repeated to also accommodate the delivery systems.
@TerminalID	1	This is the electronic address of the device from which information is entered.
HTNG_HotelKeyEncodeRQ / POS / Source / RequestorID	1	An identifier of the entity making the request (e.g. ATA/IATA/ID number, Electronic Reservation Service Provider (ERSP), Association of British Travel Agents (ABTA)).
@Type	0..1	A reference to the type of object defined by the UniqueID element. Refer to OpenTravel Code List Unique ID Type (UIT).
@ID_Context	0..1	Used to identify the source of the identifier (e.g., IATA, ABTA).
@ID	1	A unique identifying value assigned by the creating system. The ID attribute may be used to reference a primary-key value within a database or in a particular implementation.
HTNG_HotelKeyEncodeRQ / UniqueID	1	An identifier used to uniquely reference an object in a system (e.g. an airline reservation reference, customer profile reference, booking confirmation number, or a reference to a previous availability quote).
@Type	0..1	A reference to the type of object defined by the UniqueID element. Refer to OpenTravel Code List Unique ID Type (UIT).
@ID_Context	0..1	Used to identify the source of the identifier (e.g., IATA, ABTA).
@ID	1	A unique identifying value assigned by the creating system. The ID attribute may be used to reference a primary-key value within a database or in a particular implementation.
HTNG_HotelKeyEncodeRQ / HotelKeyEncode	1	
@KeyType	1	Indicates the type and format of key to be created.
@Quantity	0..1	Used to define the quantity for an associated element or attribute.
@ReturnTrackData	0..1	If "true", indicates the track data to be encoded should be returned by the key system so a key can be encoded by hardware controlled by the sender. A value of "false" indicates the key systems should encode the key.
HTNG_HotelKeyEncodeRQ / HotelKeyEncode / Encoder	0..1	Information regarding the encoder to be used to create the key. Is likely only used when ReturnTrackData = "false".
@Type	0..1	A reference to the type of object defined by the UniqueID element. Refer to OpenTravel Code List Unique ID Type (UIT).
@ID_Context	0..1	Used to identify the source of the identifier (e.g., IATA, ABTA).
@ID	1	A unique identifying value assigned by the creating system. The ID attribute may be used to reference a primary-key value within a database or in a particular implementation.
HTNG_HotelKeyEncodeRQ / HotelKeyEncode / MagneticData	0..1	Card Magnetic Stripe Data as defined by ISO 7813 for banking cards.
@Track1	0..1	The binary magnetic stripe data for track 1.
@Track2	0..1	The binary magnetic stripe data for track 2.
@Track3	0..1	The binary magnetic stripe data for track 3.
HTNG_HotelKeyEncodeRQ / HotelKeyEncode / SmartCardData	0..1	If the means of entry is a smartcard (versus a magnetic key card) this element must be present.

Element | @Attribute	Num	Description/Contents
@CardType	0..1	Indicates the type and format of key to be created.
@CardID	1	Unique identifier for the specific smartcard to be encoded.
HTNG_HotelKeyEncodeRQ / HotelKeyEncode / SmartCardData / ReadOnlyData	0..1	Data that should be written to the smart card and not allowed to be modified in subsequent requests.
HTNG_HotelKeyEncodeRQ / HotelKeyEncode / TimeSpan	1	The attributes of the OTA DateTimeSpan data type are based on the W3C base data types of timeInstant and timeDuration. The lexical representation for timeDuration is the [ISO 8601] extended format PnYn MnDTnH nMnS, where nY represents the number of years, nM the number of months, nD the number of days, 'T' is the date/time separator, nH the number of hours, nM the number of minutes and nS the number of seconds. The number of seconds can include decimal digits to arbitrary precision. As an example, 7 months, 2 days, 2hours and 30 minutes would be expressed as P0Y7M2DT2H30M0S. Truncated representations are allowed provided they conform to ISO 8601 format. Time periods, i.e. specific durations of time, can be represented by supplying two items of information: a start instant and a duration or a start instant and an end instant or an end instant and a duration. The OTA standards use the XML mapping that provides for two elements to represent the specific period of time; a startInstant and a duration.
@End	1	The ending value of the time span.
@Start	0..1	The starting value of the time span.
HTNG_HotelKeyEncodeRQ / HotelKeyEncode / AccessAreas	0..1	A collection of additional restricted areas the guest will be able to access using their room key.
HTNG_HotelKeyEncodeRQ / HotelKeyEncode / AccessAreas / AccessArea	1..n	An individual access area.
@Type	0..1	A reference to the type of object defined by the UniqueID element. Refer to OpenTravel Code List Unique ID Type (UIT).
@ID_Context	0..1	Used to identify the source of the identifier (e.g., IATA, ABTA).
@ID	1	A unique identifying value assigned by the creating system. The ID attribute may be used to reference a primary-key value within a database or in a particular implementation.
HTNG_HotelKeyEncodeRQ / HotelKeyEncode / RoomType	1	Provides details regarding rooms, usually guest rooms.
@Composite	0..1	Indicates that the room (suite) is a composite of smaller units.
@RoomID	1	A string value representing the unique identification of a room if the request is looking for a specific room.
HTNG_HotelKeyEncodeRQ / HotelKeyEncode / RoomType / ComponentRooms	0..1	A collection of connecting rooms or suite components
HTNG_HotelKeyEncodeRQ / HotelKeyEncode / RoomType / ComponentRooms / ComponentRoom	1..n	An individual room that connects to another room, or is part of a suite.
@RoomID	1	A string value representing the unique identification of a room if the request is looking for a specific room.

5.5.3 Sample Request Message – Encode Hotel Room Key

```
<?xml version="1.0" encoding="UTF-8"?>
<HTNG_HotelKeyEncodeRQ EchoToken="96fd8433-1935-491e-9a02-97d1c5a20352" TimeStamp="2010-02-12T12:26:47"
Version="1.0" xmlns="http://htng.org/2010A" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
        <POS>
                <Source TerminalID="TRM123">
```

```
                        <RequestorID Type="18" ID="KSKSYS123"/>
                </Source>
        </POS>
        <UniqueID Type="14" ID="RES123456"/>
        <HotelKeyEncode KeyType="Add-Update" Quantity="1" ReturnTrackData="false">
                <Encoder Type="0" ID="ENC123456"/>
                <MagneticData Track2="MTIzNDU2"></MagneticData>
                <TimeSpan End="2010-08-15T12:00:00" Start="2010-08-13T16:37:24"/>
                <AccessAreas>
                        <AccessArea Type="27" ID="POOL"/>
                </AccessAreas>
                <RoomType Composite="false" RoomID="1706"/>
        </HotelKeyEncode>
</HTNG_HotelKeyEncodeRQ>
```

5.5.4 Sample Request Message – Request Hotel Room Key Encoding

```
<?xml version="1.0" encoding="UTF-8"?>
<HTNG_HotelKeyEncodeRQ EchoToken="96fd8433-1935-491e-9a02-97d1c5a20352" TimeStamp="2010-02-12T12:26:47"
Version="1.0" xmlns="http://htng.org/2010A" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
        <POS>
                <Source TerminalID="TRM123">
                        <RequestorID Type="18" ID="KSKSYS123"/>
                </Source>
        </POS>
        <UniqueID Type="14" ID="RES123456"/>
        <HotelKeyEncode KeyType="Add-Update" ReturnTrackData="true">
                <MagneticData Track2="MTIzNDU2"></MagneticData>
                <TimeSpan End="2010-08-15T12:00:00" Start="2010-08-13T16:37:24"/>
                <AccessAreas>
                        <AccessArea Type="27" ID="POOL"/>
                </AccessAreas>
                <RoomType Composite="false" RoomID="1706"/>
        </HotelKeyEncode>
</HTNG_HotelKeyEncodeRQ>
```

5.5.5 Data Element Table – Response

Element | @Attribute	Num	Description/Contents
HTNG_HotelKeyEncodeRS	1	Root element of the message.
@EchoToken	1	A reference for additional message identification, assigned by the requesting host system. When a request message includes an echo token the corresponding response message MUST include an echo token with an identical value.
@TimeStamp	1	Indicates the creation date and time of the message in UTC using the following format specified by ISO 8601; YYYY-MM-DDThh:mm:ssZ with time values using the 24 hour clock (e.g. 20 November 2003, 1:59:38 pm UTC becomes 2003-11-20T13:59:38Z).
@Version	1	For all OpenTravel versioned messages, the version of the message is indicated by a decimal value.
@Target	0..1	Used to indicate whether the request is for the Test or Production system.
HTNG_HotelKeyEncodeRS / Success	0..1	The presence of the empty Success element explicitly indicates that the OpenTravel versioned message succeeded.
HTNG_HotelKeyEncodeRS / Warnings	0..1	Used in conjunction with the Success element to define one or more business errors.
HTNG_HotelKeyEncodeRS / Warnings / Warning	1..n	Used when a message has been successfully processed to report any warnings or business errors that occurred.
@Type	1	The Warning element MUST contain the Type attribute that uses a recommended set of values to indicate the warning type. The validating XSD can expect to accept values that it has NOT been explicitly coded for and process them by using Type ="Unknown". Refer to OpenTravel Code List Error Warning Type (EWT).

Element | @Attribute	Num	Description/Contents
@Status	0..1	If present, recommended values are those enumerated in the OTA_ErrorRS, (NotProcessed | Incomplete | Complete | Unknown) however, the data type is designated as string data, recognizing that trading partners may identify additional status conditions not included in the enumeration.
@ShortText	1	An abbreviated version of the error in textual format.
@Code	0..1	If present, this refers to a table of coded values exchanged between applications to identify errors or warnings. Refer to OpenTravel Code List Error Codes (ERR).
HTNG_HotelKeyEncodeRS / UniqueID	1	An identifier used to uniquely reference an object in a system (e.g. an airline reservation reference, customer profile reference, booking confirmation number, or a reference to a previous availability quote).
@Type	0..1	A reference to the type of object defined by the UniqueID element. Refer to OpenTravel Code List Unique ID Type (UIT).
@ID_Context	0..1	Used to identify the source of the identifier (e.g., IATA, ABTA).
@ID	1	A unique identifying value assigned by the creating system. The ID attribute may be used to reference a primary-key value within a database or in a particular implementation.
HTNG_HotelKeyEncodeRS / HotelKeyEncode	0..1	The base element containing all of the necessary information to perform a local or remote key cut. It is important to note that many of the child elements or attributes may or may not be echoed-back in the response message for the convenience of the sender.
@KeyType	0..1	Indicates the type and format of key created.
@Quantity	1	Used to define the quantity for an associated element or attribute.
@ReturnTrackData	0..1	Indicates whether the track data to be encoded should be returned so it can be created locally (versus the receiver encoding the key directly.)
HTNG_HotelKeyEncodeRS / HotelKeyEncode / Encoder	1	Information regarding the encoder to be used to create the key.
@Type	0..1	A reference to the type of object defined by the UniqueID element. Refer to OpenTravel Code List Unique ID Type (UIT).
@ID_Context	0..1	Used to identify the source of the identifier (e.g., IATA, ABTA).
@ID	1	A unique identifying value assigned by the creating system. The ID attribute may be used to reference a primary-key value within a database or in a particular implementation.
OTA_HotelKeyEncodeRS / HotelKeyEncode / MagneticData	0..1	Card Magnetic Stripe Data as defined by ISO 7813 for banking cards.
@Track1	0..1	The binary magnetic stripe data for track 1.
@Track2	0..1	The binary magnetic stripe data for track 2.
@Track3	0..1	The binary magnetic stripe data for track 3.
OTA_HotelKeyEncodeRS / HotelKeyEncode / SmartCardData	0..1	If the means of entry is a smartcard (versus a magnetic key card) this element must be present.
@CardType	1	Indicates the type and format of key to be created.
OTA_HotelKeyEncodeRS / HotelKeyEncode / SmartCardData / ReadOnlyData	1	Data that should be written to the smart card and not allowed to be modified in subsequent requests.
OTA_HotelKeyEncodeRS / HotelKeyEncode / TimeSpan	1	The attributes of the OTA DateTimeSpan data type are based on the W3C base data types of timeInstant and timeDuration. The lexical representation for timeDuration is the [ISO 8601] extended format PnYn MnDTnH nMnS, where nY represents the number of years, nM the number of months, nD the number

Element | @Attribute	Num	Description/Contents
		of days, 'T' is the date/time separator, nH the number of hours, nM the number of minutes and nS the number of seconds. The number of seconds can include decimal digits to arbitrary precision. As an example, 7 months, 2 days, 2hours and 30 minutes would be expressed as P0Y7M2DT2H30M0S. Truncated representations are allowed provided they conform to ISO 8601 format. Time periods, i.e. specific durations of time, can be represented by supplying two items of information: a start instant and a duration or a start instant and an end instant or an end instant and a duration. The OTA standards use the XML mapping that provides for two elements to represent the specific period of time; a startInstant and a duration.
@End	1	The ending value of the time span.
@Start	1	The starting value of the time span.
OTA_HotelKeyEncodeRS / HotelKeyEncode / AccessAreas	0..1	A collection of additional restricted areas the guest will be able to access using their room key.
OTA_HotelKeyEncodeRS / HotelKeyEncode / AccessAreas / AccessArea	1..n	An individual access area.
@Type	0..1	A reference to the type of object defined by the UniqueID element. Refer to OpenTravel Code List Unique ID Type (UIT).
@ID_Context	0..1	Used to identify the source of the identifier (e.g., IATA, ABTA).
@ID	1	A unique identifying value assigned by the creating system. The ID attribute may be used to reference a primary-key value within a database or in a particular implementation.
OTA_HotelKeyEncodeRS / HotelKeyEncode / RoomType	1	Provides details regarding rooms, usually guest rooms.
@Composite	0..1	Indicates that the room (suite) is a composite of smaller units.
@RoomID	1	A string value representing the unique identification of a room if the request is looking for a specific room.
OTA_HotelKeyEncodeRS / HotelKeyEncode / ComponentRooms	0..1	A collection of connecting rooms or suite components
OTA_HotelKeyEncodeRS / HotelKeyEncode / ComponentRooms / ComponentRoom	1..n	An individual room that connects to another room, or is part of a suite.
@RoomID	1	A string value representing the unique identification of a room if the request is looking for a specific room.

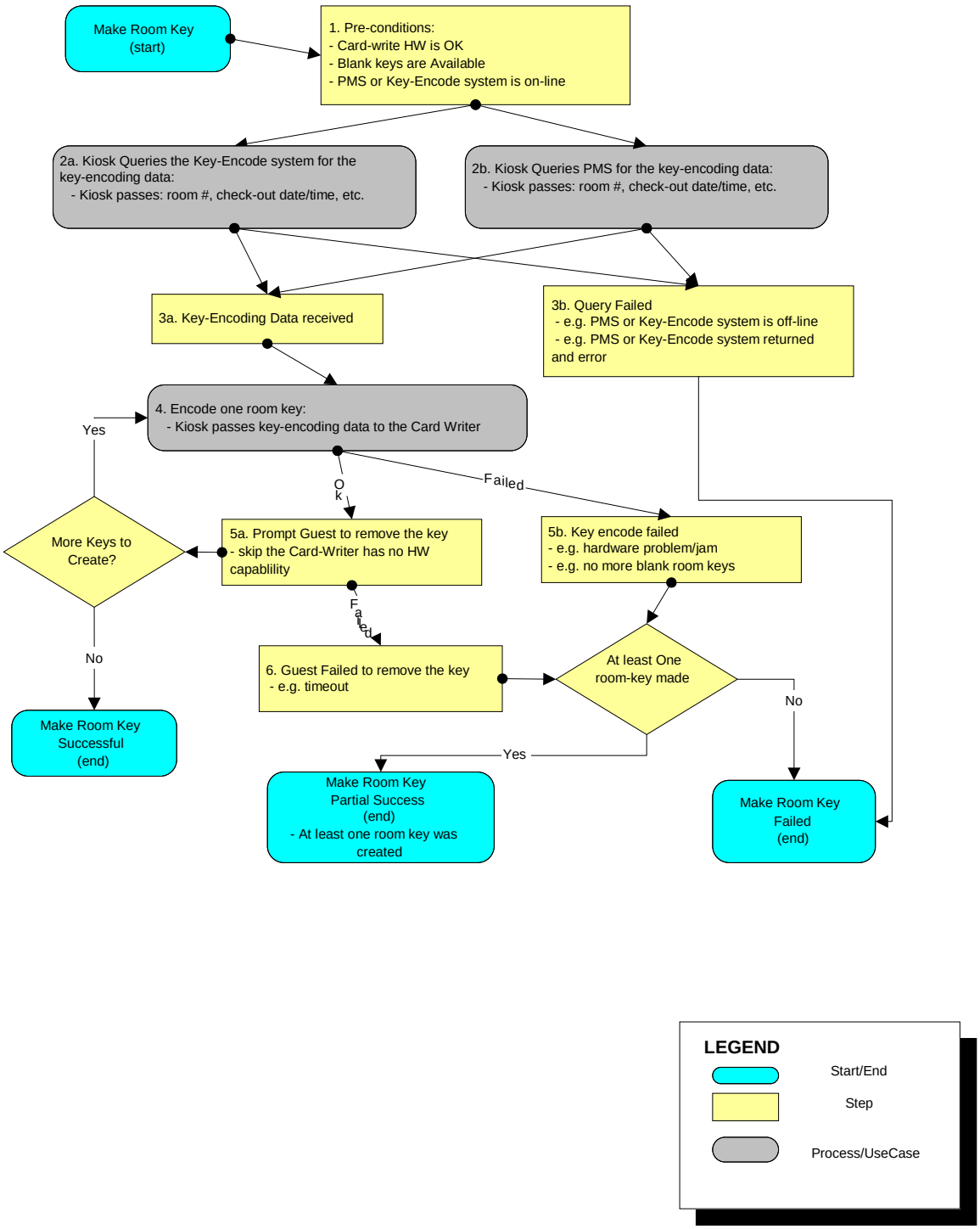
5.5.6 Sample Response Message – Encode Hotel Room Key

```
<?xml version="1.0" encoding="UTF-8"?>
<HTNG_HotelKeyEncodeRS EchoToken="96fd8433-1935-491e-9a02-97d1c5a20352" TimeStamp="2010-02-12T12:26:47"
Version="1.0" xmlns="http://htng.org/2010A" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
        <Success/>
        <UniqueID Type="14" ID="RES123456"/>
        <HotelKeyEncode KeyType="Add-Update" Quantity="1" ReturnTrackData="false">
                <AccessAreas>
                        <AccessArea Type="27" ID="POOL"/>
                        <AccessArea Type="27" ID="EASTENTRANCE"/>
                </AccessAreas>
        </HotelKeyEncode>
</HTNG_HotelKeyEncodeRS>
```

5.5.7 Sample Response Message - Request Hotel Room Key Encoding

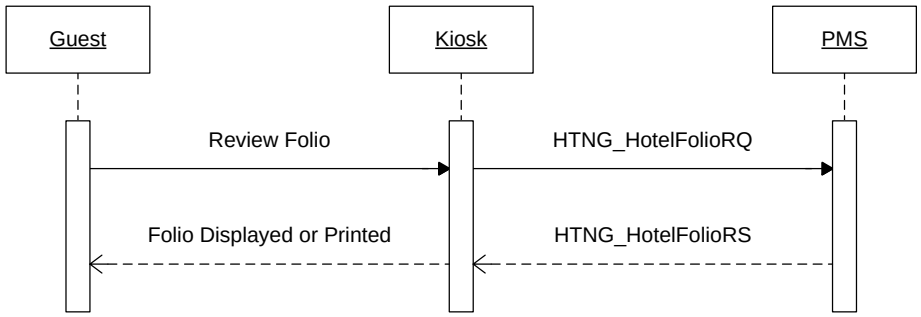
```
<?xml version="1.0" encoding="UTF-8"?>
```

```
<HTNG_HotelKeyEncodeRS EchoToken="96fd8433-1935-491e-9a02-97d1c5a20352" TimeStamp="2010-02-12T12:26:47"
Version="1.0" xmlns="http://htng.org/2010A" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
        <Success/>
        <UniqueID Type="14" ID="RES123456"/>
        <HotelKeyEncode KeyType="Add-Update" Quantity="1" ReturnTrackData="false">
                <MagneticData Track2="MTIzNDU2" Track3="MTIzNDU2"></MagneticData>
                <AccessAreas>
                        <AccessArea Type="27" ID="POOL"/>
                        <AccessArea Type="27" ID="EASTENTRANCE"/>
                </AccessAreas>
        </HotelKeyEncode>
</HTNG_HotelKeyEncodeRS>
```


Make Room Key (start)
1. Pre-conditions:
- Card-write HW is OK
- Blank keys are Available
- PMS or Key-Encode system is on-line
2a. Kiosk Queries the Key-Encode system for the key-encoding data:
- Kiosk passes: room #, check-out date/time, etc.
2b. Kiosk Queries PMS for the key-encoding data:
- Kiosk passes: room #, check-out date/time, etc.
3a. Key-Encoding Data received
3b. Query Failed
- e.g. PMS or Key-Encode system is off-line
- e.g. PMS or Key-Encode system returned and error
4. Encode one room key:
- Kiosk passes key-encoding data to the Card Writer
Yes
Ok
Failed
More Keys to Create?
5a. Prompt Guest to remove the key
- skip the Card-Writer has no HW capablility
5b. Key encode failed
- e.g. hardware problem/jam
- e.g. no more blank room keys
No
Failed
6. Guest Failed to remove the key
- e.g. timeout
At least One room-key made
No
Yes
Make Room Key Successful (end)
Make Room Key Partial Success (end)
- At least one room key was created
Make Room Key Failed (end)
LEGEND
Start/End
Step
Process/UseCase

5.6 Retrieve Folio

5.6.1 Messaging Use Case



Use Case Name:	**Folio Retrieval**
Summary:	Kiosk requests the folios for an In-house guest. The PMS uses the reservation number to enumerate the appropriate folios. The PMS then returns each folio attached to the reservation.
Basic Course of Events:	The Use Case Begins when the guest requests to view their folio. The Use Case Ends when they are presented with their folio.
Exception Path:	-Reservation not found. -Folio not found.
Trigger:	Guest wants to review the charged incurred during their stay.
Assumptions:	Guest is in-house.
Preconditions:	Reservation is checked-in at the hotel.
Postconditions:	Guest receives a copy of their folio(s).
Business Rules:	The ability for a guest to view their folio, and when, is driven by the business rules of the Hotel.

5.6.2 Data Element Table – Request

Element | @Attribute	Num	Description/Contents
HTNG_HotelFolioRQ	1	Root element of the message.
@EchoToken	1	A reference for additional message identification, assigned by the requesting host system. When a request message includes an echo token the corresponding response message MUST include an echo token with an identical value.
@TimeStamp	1	Indicates the creation date and time of the message in UTC using the following format specified by ISO 8601; YYYY-MM-DDThh:mm:ssZ with time values using the 24 hour clock (e.g. 20 November 2003, 1:59:38 pm UTC becomes 2003-11-20T13:59:38Z).
@Version	1	For all OpenTravel versioned messages, the version of the message is indicated by a decimal value.
@Target	0..1	Used to indicate whether the request is for the Test or Production system.
HTNG_HotelFolioRQ / POS / Source	1	This holds details regarding the requestor. It may be repeated to also accommodate the delivery systems.
@TerminalID	0..1	This is the electronic address of the device from which information is entered.
HTNG_HotelFolioRQ / POS / Source / RequestorID	1	An identifier of the entity making the request (e.g. ATA/IATA/ID number, Electronic Reservation Service Provider (ERSP), Association of British Travel Agents (ABTA)).

Element | @Attribute	Num	Description/Contents
@Type	0..1	A reference to the type of object defined by the UniqueID element. Refer to OpenTravel Code List Unique ID Type (UIT).
@ID_Context	0..1	Used to identify the source of the identifier (e.g., IATA, ABTA).
@ID	1	A unique identifying value assigned by the creating system. The ID attribute may be used to reference a primary-key value within a database or in a particular implementation.
HTNG_HotelFolioRQ / UniqueID	1	An identifier used to uniquely reference an object in a system (e.g. an airline reservation reference, customer profile reference, booking confirmation number, or a reference to a previous availability quote).
@Type	1	A reference to the type of object defined by the UniqueID element. Refer to OpenTravel Code List Unique ID Type (UIT).
@ID_Context	0..1	Used to identify the source of the identifier (e.g., IATA, ABTA).
@ID	1	A unique identifying value assigned by the creating system. The ID attribute may be used to reference a primary-key value within a database or in a particular implementation.

5.6.3 Sample Request Message

```
<?xml version="1.0" encoding="UTF-8"?>
<HTNG_HotelFolioRQ EchoToken="e23a0dab-9a03-4ab6-8c8e-7b9cb68fdf2d" TimeStamp="2010-02-12T12:26:47"
Version="1.0" xmlns="http://htng.org/2010A" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
        <POS>
                <Source TerminalID="TRM123">
                        <RequestorID Type="18" ID="KSKSYS123"/>
                </Source>
        </POS>
        <UniqueID Type="14" ID="RES123456"/>
</HTNG_HotelFolioRQ>
```

5.6.4 Data Element Table – Response

Element | @Attribute	Num	Description/Contents
HTNG_HotelFolioRS	1	Root element of the message.
@EchoToken	1	A reference for additional message identification, assigned by the requesting host system. When a request message includes an echo token the corresponding response message MUST include an echo token with an identical value.
@TimeStamp	1	Indicates the creation date and time of the message in UTC using the following format specified by ISO 8601; YYYY-MM-DDThh:mm:ssZ with time values using the 24 hour clock (e.g. 20 November 2003, 1:59:38 pm UTC becomes 2003-11-20T13:59:38Z).
@Version	1	For all OpenTravel versioned messages, the version of the message is indicated by a decimal value.
@Target	0..1	Used to indicate whether the request is for the Test or Production system.
HTNG_HotelFolioRS / Success	0..1	The presence of the empty Success element explicitly indicates that the OpenTravel versioned message succeeded.
HTNG_HotelFolioRS / Warnings	0..1	Used in conjunction with the Success element to define one or more business errors.
HTNG_HotelFolioRS / Warnings / Warning	1..n	Used when a message has been successfully processed to report any warnings or business errors that occurred.
@Type	1	The Warning element MUST contain the Type attribute that uses a recommended set of values to indicate the warning type. The validating XSD can expect to accept values that it has NOT been explicitly coded for and process them by using Type ="Unknown". Refer to OpenTravel Code List Error Warning Type (EWT).

Element | @Attribute	Num	Description/Contents
@Status	0..1	If present, recommended values are those enumerated in the OTA_ErrorRS, (NotProcessed | Incomplete | Complete | Unknown) however, the data type is designated as string data, recognizing that trading partners may identify additional status conditions not included in the enumeration.
@ShortText	1	An abbreviated version of the error in textual format.
@Code	0..1	If present, this refers to a table of coded values exchanged between applications to identify errors or warnings. Refer to OpenTravel Code List Error Codes (ERR).
HTNG_HotelFolioRS / UniqueID	1	An identifier used to uniquely reference an object in a system (e.g. an airline reservation reference, customer profile reference, booking confirmation number, or a reference to a previous availability quote).
@Type	1	A reference to the type of object defined by the UniqueID element. Refer to OpenTravel Code List Unique ID Type (UIT).
@ID_Context	0..1	Used to identify the source of the identifier (e.g., IATA, ABTA).
@ID	1	A unique identifying value assigned by the creating system. The ID attribute may be used to reference a primary-key value within a database or in a particular implementation.
HTNG_HotelFolioRS / Folios	0..1	A collection of folios
HTNG_HotelFolioRS / Folios / Folio	1..n	An individual folio of charges
@GuestPayable	1	When true, the guest may provide payment for the folio. When false, the guest may not provide payment for the folio.
@FolioID	1	Unique PMS identifier if a given folio.
@InvoiceID		
@FolioGroupingID	0..1	For folios with a FolioType of "Guest" this differentiates them. This provides flexibility to group incidental charges, room charges, or any other logical grouping.
@GuestViewable	1	When true, the comment may be shown to the consumer. When false, the comment may not be shown to the consumer.
@FolioType	1	An enumeration of the following values: Group, Corporate, Wholesaler, Comp Accounting, Guest, Package, Other
HTNG_HotelFolioRS / Folios / Folio / BasicPropertyInfo	0..1	An abbreviated short summary of hotel descriptive information.
@HotelName	0..1	A text field used to communicate the proper name of the hotel.
@HotelCode	0..1	The code that uniquely identifies a single hotel property. The hotel code is decided between vendors.
@HotelCodeContext	0..1	A text field used to communicate the context (or source of - ex Sabre, Galileo, Worldspan, Amadeus) the HotelReferenceGroup codes.
HTNG_HotelFolioRS / Folios / Folio / BasicPropertyInfo / Address / AddressLine	0..5	When the address is unformatted (FormattedInd="false") these lines will contain free form address details. When the address is formatted and street number and street name must be sent independently, the street number will be sent using StreetNmbr, and the street name will be sent in the first AddressLine occurrence.
HTNG_HotelFolioRS / Folios / Folio / BasicPropertyInfo / Address / CityName	0..1	City (e.g., Dublin), town, or postal station (i.e., a postal service territory, often used in a military address).
HTNG_HotelFolioRS / Folios / Folio / BasicPropertyInfo / Address / PostalCode	0..1	Post Office Code number.
HTNG_HotelFolioRS / Folios / Folio / BasicPropertyInfo / Address / StateProv	0..1	State or Province name (e.g., Texas).

Element | @Attribute	Num	Description/Contents
@StateCode	0..1	The standard code or abbreviation for the state, province, or region.
HTNG_HotelFolioRS / Folios / Folio / BasicPropertyInfo / Address / CountryName	0..1	Country name (e.g., Ireland).
@Code	0..1	ISO 3166 code for a country.
HTNG_HotelFolioRS / Folios / Folio / BasicPropertyInfo / ContactNumbers / ContactNumber	0..1	Contact numbers of the hotel property. Examples are telephone and fax numbers.
@PhoneNumber	0..1	Telephone number assigned to a single location.
@CountryAccessCode	0..1	Code assigned by telecommunications authorities for international country access identifier.
@AreaCityCode	0..1	Code assigned for telephones in a specific region, city, or area.
HTNG_HotelFolioRS / Folios / Folio / CustomerProfile	1	The profile for the customer incurring the charges.
@ProfileType	1	Code to specify a profile such as Customer, Tour Operator, Corporation, etc. Refer to OpenTravel Code List Profile Type (PRT).
HTNG_HotelFolioRS / Folios / Folio / CustomerProfile / Customer / PersonName / GivenName	0..1	Given name, first name or names.
HTNG_HotelFolioRS / Folios / Folio / CustomerProfile / Customer / PersonName / MiddleName	0..1	The middle name of the person name
HTNG_HotelFolioRS / Folios / Folio / CustomerProfile / Customer / PersonName / Surname	0..1	Family name, last name.
HTNG_HotelFolioRS / Folios / Folio / CustomerProfile / Customer / PersonName / NameSuffix	0..1	Hold various name suffixes and letters (e.g. Jr., Sr., III, Ret., Esq.).
HTNG_HotelFolioRS / Folios / Folio / CustomerProfile / Customer / PersonName / NameTitle	0..1	Degree or honors (e.g., Ph.D., M.D.)
HTNG_HotelFolioRS / Folios / Folio / CustomerProfile / Customer / Address / AddressLine	0..1	When the address is unformatted (FormattedInd="false") these lines will contain free form address details. When the address is formatted and street number and street name must be sent independently, the street number will be sent using StreetNmbr, and the street name will be sent in the first AddressLine occurrence.
HTNG_HotelFolioRS / Folios / Folio / CustomerProfile / Customer / Address / CityName	0..1	City (e.g., Dublin), town, or postal station (i.e., a postal service territory, often used in a military address).
HTNG_HotelFolioRS / Folios / Folio / CustomerProfile / Customer / Address / PostalCode	0..1	Post Office Code number.
HTNG_HotelFolioRS / Folios / Folio / CustomerProfile / Customer / Address / StateProv	0..1	State or Province name (e.g., Texas).
@StateCode	0..1	The standard code or abbreviation for the state, province, or region.
HTNG_HotelFolioRS / Folios / Folio / CustomerProfile /	0..1	Country name (e.g., Ireland).

Element | @Attribute	Num	Description/Contents
Customer / Address CountryName		
@Code	0..1	A 2 character country code as defined in ISO3166.
HTNG_HotelFolioRS / Folios / Folio / CustomerProfile / CompanyInfo / CompanyName	1	Identifies a company by name.
@CodeContext	0..1	Identifies the context of the identifying code, such as DUNS, IATA or internal code, etc.
@CompanyShortName	0..1	Used to provide the company common name.
@Code	1	Identifies a company by the company code.
HTNG_HotelFolioRS / Folios / Folio / CustomerProfile / CompanyInfo / AddressInfo / AddressLine	0..5	When the address is unformatted (FormattedInd="false") these lines will contain free form address details. When the address is formatted and street number and street name must be sent independently, the street number will be sent using StreetNmbr, and the street name will be sent in the first AddressLine occurrence.
HTNG_HotelFolioRS / Folios / Folio / CustomerProfile / CompanyInfo / AddressInfo / CityName	0..1	City (e.g., Dublin), town, or postal station (i.e., a postal service territory, often used in a military address).
HTNG_HotelFolioRS / Folios / Folio / CustomerProfile / CompanyInfo / AddressInfo / PostalCode	0..1	Post Office Code number.
HTNG_HotelFolioRS / Folios / Folio / CustomerProfile / CompanyInfo / AddressInfo / StateProv	0..1	State or Province name (e.g., Texas).
@StateCode	0..1	The standard code or abbreviation for the state, province, or region.
HTNG_HotelFolioRS / Folios / Folio / CustomerProfile / CompanyInfo / AddressInfo / CountryName	0..1	The name or code of a country (e.g. as used in an address or to specify citizenship of a traveler)
@Code	0..1	A 2 character country code as defined in ISO3166.
HTNG_HotelFolioRS / Folios / Folio / PayerProfile	0..1	The profile for the entity with financial responsibility for the charges incurred.
@ProfileType	1	Code to specify a profile such as Customer, Tour Operator, Corporation, etc. Refer to OpenTravel Code List Profile Type (PRT).
HTNG_HotelFolioRS / Folios / Folio / PayerProfile / Customer / PersonName / GivenName	0..1	Given name, first name or names.
HTNG_HotelFolioRS / Folios / Folio / PayerProfile / Customer / PersonName / MiddleName	0..1	The middle name of the person name
HTNG_HotelFolioRS / Folios / Folio / PayerProfile / Customer / PersonName / Surname	0..1	Family name, last name.
HTNG_HotelFolioRS / Folios / Folio / PayerProfile / Customer / PersonName / NameSuffix	0..1	Hold various name suffixes and letters (e.g. Jr., Sr., III, Ret., Esq.).
HTNG_HotelFolioRS / Folios / Folio / PayerProfile / Customer / PersonName / NameTitle	0..1	Degree or honors (e.g., Ph.D., M.D.)
HTNG_HotelFolioRS / Folios / Folio / PayerProfile / Customer /	0..5	When the address is unformatted (FormattedInd="false") these lines will contain free form address details. When the address is formatted and street

Element | @Attribute	Num	Description/Contents
Address / AddressLine		number and street name must be sent independently, the street number will be sent using StreetNmbr, and the street name will be sent in the first AddressLine occurrence.
HTNG_HotelFolioRS / Folios / Folio / PayerProfile / Customer / Address / CityName	0..1	City (e.g., Dublin), town, or postal station (i.e., a postal service territory, often used in a military address).
HTNG_HotelFolioRS / Folios / Folio / PayerProfile / Customer / Address / PostalCode	0..1	Post Office Code number.
HTNG_HotelFolioRS / Folios / Folio / PayerProfile / Customer / Address / StateProv	0..1	State or Province name (e.g., Texas).
@StateCode	0..1	The standard code or abbreviation for the state, province, or region.
HTNG_HotelFolioRS / Folios / Folio / PayerProfile / Customer / Address CountryName	0..1	Country name (e.g., Ireland).
@Code	0..1	A 2 character country code as defined in ISO3166.
HTNG_HotelFolioRS / Folios / Folio / PayerProfile / CompanyInfo / CompanyName	0..1	Identifies a company by name.
@CodeContext	0..1	Identifies the context of the identifying code, such as DUNS, IATA or internal code, etc.
@CompanyShortName	0..1	Used to provide the company common name.
@Code	0..1	Identifies a company by the company code.
HTNG_HotelFolioRS / Folios / Folio / PayerProfile / CompanyInfo / AddressInfo / AddressLine	0..5	When the address is unformatted (FormattedInd="false") these lines will contain free form address details. When the address is formatted and street number and street name must be sent independently, the street number will be sent using StreetNmbr, and the street name will be sent in the first AddressLine occurrence.
HTNG_HotelFolioRS / Folios / Folio / PayerProfile / CompanyInfo / AddressInfo / CityName	0..1	City (e.g., Dublin), town, or postal station (i.e., a postal service territory, often used in a military address).
HTNG_HotelFolioRS / Folios / Folio / PayerProfile / CompanyInfo / AddressInfo / PostalCode	0..1	Post Office Code number.
HTNG_HotelFolioRS / Folios / Folio / PayerProfile / CompanyInfo / AddressInfo / StateProv	0..1	State or Province name (e.g., Texas).
@StateCode	0..1	The standard code or abbreviation for the state, province, or region.
HTNG_HotelFolioRS / Folios / Folio / PayerProfile / CompanyInfo / AddressInfo / CountryName	0..1	The name or code of a country (e.g. as used in an address or to specify citizenship of a traveller)
@Code	0..1	A 2 character country code as defined in ISO3166.
HTNG_HotelFolioRS / Folios / Folio / RevenueSummary / GrossAmount	0..1	The total booking cost to the customer.
@Amount	1	A monetary amount.

Element | @Attribute	Num	Description/Contents
HTNG_HotelFolioRS / Folios / Folio / RevenueSummary / TaxItems	0..1	The total taxes charged to the customer
@Amount	1	A monetary amount.
HTNG_HotelFolioRS / Folios / Folio / RevenueSummary / BalanceDueAmount	1	The amount remaining to be paid by the customer i.e. GrossAmount less the greater of DepositAmount and Amount Received.
@Amount	1	A monetary amount.
HTNG_HotelFolioRS / Folios / Folio / RevenueSummary / AmountReceived	0..1	The payment amount received against the reservation.
@Amount	1	A monetary amount.
HTNG_HotelFolioRS / Folios / Folio / RevenueDetails / RevenueDetail	1..n	The line item detail of specific revenue transactions
@ReferenceID	0..1	The unique transaction identifier for this posting.
@TransactionDate	1	The date the transaction was posted.
@PMSRevenueCode	0..1	The transaction code assigned by the PMS.
@CurrencyCode	0..1	The code specifying a monetary unit. Use ISO 4217, three alpha code.
@Amount	1	A monetary amount.
@Description	1	The line item detail description for this posting.
@DecimalPlaces	1	Indicates the number of decimal places for a particular currency. This is equivalent to the ISO 4217 standard "minor unit". Typically used when the amount provided includes the minor unit of currency without a decimal point (e.g., USD 8500 needs DecimalPlaces="2" to represent $85).
HTNG_HotelFolioRS / Folios / Folio / RevenueDetails / RevenueDetail / FolioIDs	1	This element is no implemented in the Kiosk messaging, but the OpenTravel schema requires its use. Only a single child FolioID is needed in order fulfill the schema requirement.
HTNG_HotelFolioRS / Folios / Folio / RevenueDetails / RevenueDetail / FolioIDs / FolioID	1	Even though this value is not used in the Kiosk messaging, it's value should match the value of `\\HTNG_HotelFolioRS\Folios\Folio@FolioID`
HTNG_HotelFolioRS / Folios / Folio / RevenueDetails / RevenueDetail / UnitPrice	0..1	The unit amount charged for the service including additional amounts and fees.
@AmountBeforeTax	0..1	The unit amount not including any associated tax (e.g., sales tax, VAT, GST or any associated tax).
@AmountAfterTax	0..1	The unit amount including all associated taxes (e.g., sales tax, VAT, GST or any associated tax).
HTNG_HotelFolioRS / Folios / Folio / RevenueDetails / RevenueDetail / UnitPrice / Taxes	0..1	A collection of taxes.
HTNG_HotelFolioRS / Folios / Folio / RevenueDetails / RevenueDetail / UnitPrice / Taxes / Tax	1..n	Applicable tax element. This element allows for both percentages and flat amounts. If one field is used, the other should be zero since logically, taxes should be calculated in only one of the two ways.
@Type	0..1	Used to indicate if the amount is inclusive or exclusive of other charges, such as taxes, or is cumulative (amounts have been added to each other).

Element | @Attribute	Num	Description/Contents
@Percent	0..1	Fee percentage; if zero, assume use of the Amount attribute (Amount or Percent must be a zero value).
@Amount	1	A monetary amount.
@Code	0..1	Code identifying the fee (e.g.,agency fee, municipality fee). Refer to OpenTravel Code List Fee Tax Type (FTT).
HTNG_HotelFolioRS / Folios / Folio / RevenueDetails / RevenueDetail / UnitPrice / Taxes / Tax / TaxDescription	1	The tax description item.
@Name	1	The line item detail description for this tax posting.
HTNG_HotelFolioRS / Folios / Folio / RevenueDetails / RevenueDetail / ExtendedPrice	0..1	The total amount charged for the service including additional amounts and fees.
@AmountBeforeTax	0..1	The unit amount not including any associated tax (e.g., sales tax, VAT, GST or any associated tax).
@AmountAfterTax	0..1	The unit amount including all associated taxes (e.g., sales tax, VAT, GST or any associated tax).
@Quantity	1	
HTNG_HotelFolioRS / Folios / Folio / RevenueDetails / RevenueDetail / ExtendedPrice / Taxes	0..1	A collection of taxes.
HTNG_HotelFolioRS / Folios / Folio / RevenueDetails / RevenueDetail / ExtendedPrice / Taxes / Tax	1..n	Applicable tax element. This element allows for both percentages and flat amounts. If one field is used, the other should be zero since logically, taxes should be calculated in only one of the two ways.
@Type	0..1	Used to indicate if the amount is inclusive or exclusive of other charges, such as taxes, or is cumulative (amounts have been added to each other).
@Percent	0..1	Fee percentage; if zero, assume use of the Amount attribute (Amount or Percent must be a zero value).
@Amount	1	A monetary amount.
@Code	0..1	Code identifying the fee (e.g., agency fee, municipality fee). Refer to OpenTravel Code List Fee Tax Type (FTT).
HTNG_HotelFolioRS / Folios / Folio / RevenueDetails / RevenueDetail / ExtendedPrice / Taxes / Tax / TaxDescription	1	The tax description item.
@Name	1	The line item detail description for this tax posting.

5.6.5 Sample Response Message

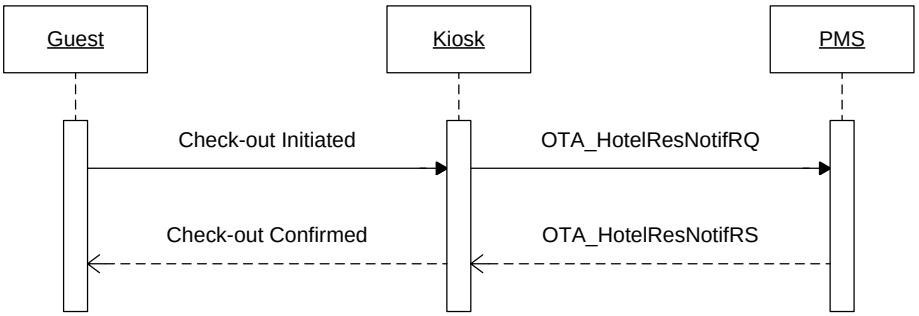
```
<?xml version="1.0" encoding="UTF-8"?>
<HTNG_HotelFolioRS EchoToken="e23a0dab-9a03-4ab6-8c8e-7b9cb68fdf2d" TimeStamp="2010-02-12T12:26:47"
Version="1.0" xmlns="http://htng.org/2010A" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
        <Success/>
        <UniqueID Type="14" ID="RES123456"/>
        <Folios>
                <Folio GuestPayable="true" FolioID="74328654" InvoiceID="7897435" FolioGroupingID="G"
GuestViewable="true" FolioType="Incidental">
                        <BasicPropertyInfo HotelName="Sunnyview Hotel" HotelCode="SNYVW">
                                <Address>
                                        <AddressLine>10 E Sunnyview Circle</AddressLine>
                                        <CityName>Sunnytown</CityName>
                                        <PostalCode>65432</PostalCode>
                                        <StateProv StateCode="CA">California</StateProv>
```

```
                                <CountryName Code="US">United States of America</CountryName>
                        </Address>
                </BasicPropertyInfo>
                <CustomerProfile ProfileType="1">
                        <Customer>
                                <PersonName>
                                        <NamePrefix>Mr.</NamePrefix>
                                        <GivenName>John</GivenName>
                                        <MiddleName>A</MiddleName>
                                        <Surname>Smith</Surname>
                                </PersonName>
                                <Address>
                                        <AddressLine>101 Main Street</AddressLine>
                                        <CityName>Anytown</CityName>
                                        <PostalCode>012345</PostalCode>
                                        <StateProv StateCode="PA">Pennsylvania</StateProv>
                                        <CountryName Code="US">United States of America</CountryName>
                                </Address>
                        </Customer>
                </CustomerProfile>
                <PayerProfile>
                        <Customer>
                                <PersonName>
                                        <NamePrefix>Mr.</NamePrefix>
                                        <GivenName>John</GivenName>
                                        <MiddleName>A</MiddleName>
                                        <Surname>Smith</Surname>
                                </PersonName>
                                <Address>
                                        <AddressLine>101 Main Street</AddressLine>
                                        <CityName>Anytown</CityName>
                                        <PostalCode>012345</PostalCode>
                                        <StateProv StateCode="PA">Pennsylvania</StateProv>
                                        <CountryName Code="US">United States of America</CountryName>
                                </Address>
                        </Customer>
                </PayerProfile>
                <RevenueSummary>
                        <GrossAmount Amount="500.00"/>
                        <TaxItems Amount="50.00"/>
                        <BalanceDueAmount Amount="550.00"/>
                        <AmountReceived Amount="0.00"/>
                </RevenueSummary>
                <RevenueDetails>
                        <RevenueDetail ReferenceID="REF12345" TransactionDate="2010-08-13"
PMSRevenueCode="ROOM" Amount="275.00" Description="Room Revenue">
                                <FolioIDs>
                                        <FolioID>74328654</FolioID>
                                </FolioIDs>
                                <ExtendedPrice AmountBeforeTax="250.00" Quantity="1">
                                        <Taxes>
                                                <Tax Type="Exclusive" Percent="10.00" Amount="25.00">
                                                        <TaxDescription Name="State Rooms and Meals Tax"/>
                                                </Tax>
                                        </Taxes>
                                </ExtendedPrice>
                        </RevenueDetail>
                        <RevenueDetail ReferenceID="REF12346" TransactionDate="2010-08-14"
PMSRevenueCode="ROOM" Amount="275.00" Description="Room Revenue">
                                <FolioIDs>
                                        <FolioID>74328654</FolioID>
                                </FolioIDs>
                                <ExtendedPrice AmountBeforeTax="250.00" Quantity="1">
                                        <Taxes>
                                                <Tax Type="Exclusive" Percent="10.00" Amount="25.00">
                                                        <TaxDescription Name="State Rooms and Meals Tax"/>
                                                </Tax>
                                        </Taxes>
                                </ExtendedPrice>
                        </RevenueDetail>
```

```
                    </RevenueDetails>
                </Folio>
            </Folios>
</HTNG_HotelFolioRS>
```

5.7 Check-Out

5.7.1 Messaging Use Case



Use Case Name:	**Check Out**
Summary:	The Guest elects to Check out of the hotel using the Kiosk. The Guest identifies himself, reviews his folio and adds a mini bar charge, pays with his Credit Card, prints his folio and is checked out of the hotel.
Basic Course of Events:	This Use Case Begins when the Guest, John, goes to the Kiosk to Check Out. 1. John enters a method of identification. 2. The Kiosk performs a Booking Search for the single in house booking that matches the identification presented. 3. The PMS finds a single booking that matches the entered criteria.. 4. The PMS returns the selected booking to the Kiosk. 5. The Kiosk then requests the Folio Display. 6. The Kiosk displays the Folio for John to Review. 7. The Kiosk prompts John to enter any Mini Bar Charges. 8. John enters Mini Bar Charges. The Kiosk Sends a Post Charge message to the PMS. 9. The PMS updates the Guest Folio. 10. The Guest settles their folio using their Credit Card. 11. The Kiosk prints a zero value invoice 12. The Kiosk sends the PMS a Check Out Message 13. The PMS checks John out of the room and hotel. 14. The PMS sends the kiosk a Check Out Complete Message. This Use Case ends when the Guest has Checked Out
Exception Path:	**In Step 3, in the case where a booking is not found for the ID provided by John.** 1. The PMS returns a booking not found message 2. The kiosk asks John to try again with different details. In the Case where multiple bookings are found that match 1. The PMS returns a more than one match found message 2. The Kiosk asks for an additional ID element to confirm the booking 3. John Supplies an ID Element and the Kiosk Refines the Booking Search message 4. The PMS finds a single Match and returns the booking for display.
Alternative Paths:	**In Step 4 the Kiosk alerts John that he has unread Messages** 1. John reads his message 2. The Kiosk sends a Message Read notification to the PMS 3. The PMS marks the message as read 4. John repeats for each unread message.

Extension Points:	**In Step 8 John decides to separately settle his Mini Bar Charges as he does not want the Mini Bar Charges on the invoice he will file for expense reimbursement.** 1. John selects the three Mini Bar Charges on his Folio. 2. John settles these to his Credit Card. 3. The Kiosk Prints a zero balance Invoice including the Mini Bard Charges and payment only 4. John then settles the remaining transactions and receives a 2nd invoice with the other charges and payment.
Assumptions:	John is a Checked In Guest
Preconditions:	John has not checked out
Postconditions:	John has Checked Out

5.7.2 Data Element Table – Request

Element | @Attribute	Num	Description/Contents
OTA_HotelResNotifRQ	1	Hotel Reservation Notif Request supports the functionality of updating other systems with reservation data. The message assumes a push model, with the originating system pushing the data to another system. The originating system would usually be a booking source, such as a Global Distribution System (GDS), a Central Reservation System (CRS) or some other agent of the hotel.
@EchoToken	0..1	A reference for additional message identification, assigned by the requesting host system. When a request message includes an echo token the corresponding response message MUST include an echo token with an identical value.
@ResStatus	1	To specify the type of action requested when more than one function could be handled by the message. The value should be '**Modify**'.
@TimeStamp	0..1	Indicates the creation date and time of the message in UTC using the following format specified by ISO 8601; YYYY-MM-DDThh:mm:ssZ with time values using the 24 hour clock (e.g. 20 November 2003, 1:59:38 pm UTC becomes 2003-11-20T13:59:38Z).
@Version	1	For all OTA versioned messages, the version of the message is indicated by a decimal value.
@Target	0..1	Used to indicate whether the request is for the Test or Production system. Value can be either 'Test' or 'Production'.
OTA_HotelResNotifRQ / POS / Source	1	Provides information on the source of a request.
@TerminalID	0..1	This is the electronic address of the device from which information is entered.
OTA_HotelResNotifRQ / POS / Source / RequestorID	0..1	An identifier of the entity making the request (e.g. ATA/IATA/ID number, Electronic Reservation Service Provider (ERSP), Association of British Travel Agents (ABTA)).
@Type	1	A reference to the type of object defined by the UniqueID element. Refer to OTA Code List Unique ID Type (UIT).
@ID	1	A unique identifying value assigned by the creating system. The ID attribute may be used to reference a primary-key value within a database or in a particular implementation.
@ID_Context	0..1	Used to identify the source of the identifier (e.g., IATA, ABTA).
OTA_HotelResNotifRQ / HotelReservations / HotelReservation	1	The Reservation class contains the current reservation being created or altered.
@RoomStatus	1	The status of the reservation. Should be "Checked out" when checking-out a reservation.
OTA_HotelResNotifRQ / HotelReservations / HotelReservation / UniqueID	1	The booking reference for the reservation.

Element | @Attribute	Num	Description/Contents
@Type	1	A reference to the type of object defined by the UniqueID element. Refer to OTA Code List Unique ID Type (UIT).
@ID	1	A unique identifying value assigned by the creating system. The ID attribute may be used to reference a primary-key value within a database or in a particular implementation.
@ID_Context	0..1	Used to identify the source of the identifier (e.g., IATA, ABTA).

5.7.3 Sample Request Message

```
<?xml version="1.0" encoding="UTF-8"?>
<OTA_HotelResNotifRQ EchoToken="f4a2d799-0824-4801-9264-1f8554f8d427" ResStatus="Modify" TimeStamp="2010-02-
12T12:26:47" Version="1.0" xmlns="http://www.opentravel.org/OTA/2003/05"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
	<POS>
		<Source TerminalID="TRM123">
			<RequestorID Type="18" ID="KSKSYS123"/>
		</Source>
	</POS>
	<HotelReservations>
		<HotelReservation ResStatus="Checked out">
			<UniqueID Type="14" ID="RES123456"/>
		</HotelReservation>
	</HotelReservations>
</OTA_HotelResNotifRQ>
```

5.7.4 Data Element Table – Response

Element | @Attribute	Num	Description/Contents
OTA_HotelResNotifRS	1	This message returns a list of reservations when an exact match on a read request could not be made or the request was to return a list of reservations meeting specified criteria.
@EchoToken	0..1	A reference for additional message identification, assigned by the requesting host system. When a request message includes an echo token the corresponding response message MUST include an echo token with an identical value.
@TimeStamp	1	Indicates the creation date and time of the message in UTC using the following format specified by ISO 8601; YYYY-MM-DDThh:mm:ssZ with time values using the 24 hour clock (e.g. 20 November 2003, 1:59:38 pm UTC becomes 2003-11-20T13:59:38Z).
@Version	1	For all OpenTravel versioned messages, the version of the message is indicated by a decimal value.
@Target	0..1	Used to indicate whether the request is for the Test or Production system.
OTA_HotelResNotifRS / Success	0..1	The presence of the empty Success element explicitly indicates that the OpenTravel versioned message succeeded.
OTA_HotelResNotifRS / Warnings	0..1	Used in conjunction with the Success element to define one or more business errors.
OTA_HotelResNotifRS / Warnings / Warning	1..n	Used when a message has been successfully processed to report any warnings or business errors that occurred.
@Type	1	The Warning element MUST contain the Type attribute that uses a recommended set of values to indicate the warning type. The validating XSD can expect to accept values that it has NOT been explicitly coded for and process them by using Type ="Unknown". Refer to OpenTravel Code List Error Warning Type (EWT).
@Status	0..1	If present, recommended values are those enumerated in the OTA_ErrorRS, (NotProcessed | Incomplete | Complete | Unknown) however, the data type is designated as string data, recognizing that trading partners may identify additional status conditions not included in the enumeration.
@ShortText	1	An abbreviated version of the error in textual format.
@Code	0..1	If present, this refers to a table of coded values exchanged between applications to identify errors or warnings. Refer to OpenTravel Code List Error

Element | @Attribute	Num	Description/Contents
		Codes (ERR).

5.7.5 Sample Response Message

```
<?xml version="1.0" encoding="UTF-8"?>
<OTA_HotelResNotifRS EchoToken="f4a2d799-0824-4801-9264-1f8554f8d427" TimeStamp="2010-02-12T12:26:47"
Version="1.0" xmlns="http://www.opentravel.org/OTA/2003/05" xmlns:xsi="http://www.w3.org/2001/XMLSchema-
instance">
        <Success/>
</OTA_HotelResNotifRS>
```

6 Appendix 1

6.1 Web Service Description

Web service descriptions are exposed by use of *HTNG_KioskService.wsdl*. Additional required files are imported automatically.

portType name	operation name	Request message	Response message
FolioManagement	RetrieveFolio	HTNG_HotelFolioRQ	HTNG_HotelFolioRS
SecureAreaAccess	EncodeHotelRoomKey	HTNG_HotelKeyEncodeRQ	HTNG_HotelKeyEncodeRS
SecureAreaAccess	RequestHotelRoomKeyEncoding	HTNG_HotelKeyEncodeRQ	HTNG_HotelKeyEncodeRS
ReservationStayStatus	ProcessReservationCheckIn	OTA_HotelResNotifRQ	OTA_HotelResNotifRS
ReservationStayStatus	ProcessReservationCheckOut	OTA_HotelResNotifRQ	OTA_HotelResNotifRS
ReservationManagement	RetrieveReservations	OTA_ReadRQ	OTA_ResRetrieveRS
ReservationManagement	ModifyReservation	OTA_HotelResNotifRQ	OTA_HotelResNotifRS
PaymentCardProcessing	ProcessPaymentCard	HTNG_PaymentCardProcessingRQ	HTNG_PaymentCardProcessingRS