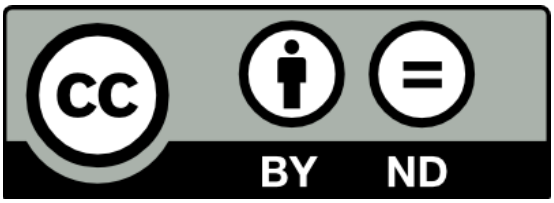
AlpineBits is a specification of an OTA-based interface that is specially tailored for Alpine tourism. Its purpose is to facilitate data exchange in the tourism sector.

compatible with version 2010A of the OpenTravel Schema by the OpenTravel Alliance.

www.alpinebits.org



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Document Change Log

protocol version	documentation release date	description
2012-05	2012-05-31	Status: ● official release Updates: ● major rewrite of the text ● FreeRooms: action OTA_HotelAvailNotif is no longer mandatory Additions: ● GuestRequests: reservation inquiries ● SimplePackages: package availability notifications Deletions: ● None
2011-11	2011-11-18	Minor alterations and release under Creative Commons Attribution-NoDerivs 3.0 Unported License
2011-10	2011-10-20	production release with minor alterations
2011-09	2011-09-08	first draft of redesigned version (using POST instead of SOAP)
2010-10	2010-10-20	second draft
2010-08	2010-08-01	first draft

Table of Contents

1. Introduction

This documents describes a standard for exchanging traveling and booking information, called **AlpineBits**.

AlpineBits builds upon established standards:

- client-server communication is done through stateless HTTPS (the client POSTs data to the server and gets a response) with basic access authentication [1] and
- the traveling and booking information are encoded in XML following version 2010A of the OpenTravel Schema [3, 4, 5] (from here on called OTA2010A) by the OpenTravel Alliance [2].

At the current version of the standard, the scope of AlpineBits covers exchanging the following types of information:

- room availability notifications,
- reservation inquiries and
- package availability notifications.

AlpineBits relies on its underlying transport protocol to take care of security issues. Hence **the use of HTTPS is mandatory**.

2. The HTTPS request and response structure

An AlpineBits compliant server exposes a **single** HTTPS URL. Clients send POST requests to that URL. Each POST request transmits the access credentials using **basic access authentication**.

The POST request **must** follow the `multipart/form-data` encoding scheme, as commonly used in the context of HTML forms for file uploads.

Each POST requests **must** have **at least** one parameter named **`action`.** Depending on the value of **`action`**, one additional parameter named **`request`** might be required.

Following is a capture of an example POST. In this example, the value of **`action`** is the string `OTA_HotelAvailNotif`, indicating the client wishes to perform a room availability notification. The value of **`request`** is an XML document (not fully shown).

```
POST / HTTP/1.1
Authorization: Basic Y2hyaXM6c2VjcmV0
Host: localhost
Accept: */*
Content-Length: 1911
Expect: 100-continue
Content-Type: multipart/form-data; boundary=----------------------------9d7042ecb251

------------------------------9d7042ecb251
Content-Disposition: form-data; name="action"

OTA_HotelAvailNotif
------------------------------9d7042ecb251
Content-Disposition: form-data; name="request"

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

<OTA_HotelAvailNotifRQ
         [...]
</OTA_HotelAvailNotifRQ>
------------------------------9d7042ecb251--
```

Note the `Authorization` header, with the username/password string (`chris:secret`) encoded in base64 (`Y2hyaXM6c2VjcmV0`) as defined by the basic access authentication standard [1]. Also note the multipart content with the values of parameters **`action`** and **`request`**.

As a result of the POST request, the server answers with a response. Of course, the content of the response depends on the POSTed parameters, in particular the value of **`action`**. AlpineBits currently identifies two kinds of actions: the so-called housekeeping actions explained in section 3 and the actual data exchange actions explained in section 4.

The expected status code of the response is 200 (Ok), indicating the server could authenticate the user (with or without being able to actually process any action).

In case of authentication failure (either an invalid or missing username/password) the status code is 401 (Authorization Required) and the content is `ERROR,` followed by a colon (`:`) and an error message indicating the reason of the failure, such as no username/password was provided or the password expired, etc.

In case of internal server problem the status code is 500 (Internal Server Error).

An AlpineBits client **must** be able to handle these status codes. It **should** retry a request that has failed (error code 500 or timeout) and only escalate the failure after 2 retries with an appropriate delay.

Implementation tips and best practice

- For maximum compatibility across different implementations AlpineBits implementors are asked to handle POST requests using a supporting API in their language of choice. For an example, see appendix A where the usage of libcURL to generate POST requests from PHP is shown.
- All POSTs to an AlpineBits server are sent to a single URL. However, a server implementor might make more than one URL available for independent servers, such as servers with support for different versions:
    - http://server.example.com/alpinebits/2011-11
    - http://server.example.com/alpinebits/2012-05

3. Housekeeping actions

These actions allow the client to query the server version and capabilities. An AlpineBits server **must** be able to handle **both**.

It is the **client's responsibility** to ensure the server can handle the actions it intends to perform. Clients are therefore invited to query the server's capabilities before performing the data exchange actions described in section 4.

The following table lists all available housekeeping actions.

usage	**mandatory**	**available since version**	**parameter `action`** (string)	**parameter `request`** (string)	**server response** (string)
a client queries the server version	YES	2011-11	`getVersion`	(not sent)	the server version
a client queries the server capabilities	YES	2011-11	`getCapabilities`	(not sent)	the server capabilities

3.1. Query the server version

A clients performs this action to query the server version. The values of **`action`** is the string `getVersion`. The parameter **`request`** is not specified.

The response content is the string OK: followed by the protocol version supported by the server (format YYYY-MM e.g. 2011-11 for the first release version of AlpineBits).

3.2. Query the server capabilities

A clients performs this action to query the server capabilities. The values of **`action`** is the string `getCapabilities`. The parameter **`request`** is not specified.

The response is a string starting with `OK:` followed by a list of comma separated tokens each of which indicates a single capability of the server.

AlpineBits specifies the following capabilities:

- `action_getVersion`
  the server implements the `getVersion` action
- `action_getCapabilities`
  the server implements the `getCapabilities` action
- `action_OTA_HotelAvailNotif`
  the server implements handling room availability notifications
- `OTA_HotelAvailNotif_accept_rooms`
  for room availability notifications, the server accept booking limits for specific rooms
- `OTA_HotelAvailNotif_accept_categories`
  for room availability notifications, the server accept booking limits for categories of rooms
- `OTA_HotelAvailNotif_accept_los`
  for room availability notifications, accept length of stay restrictions
- `OTA_HotelAvailNotif_accept_dow`
  for room availability notifications, accept day of the week restrictions
- `action_OTA_Read`
  the server implements handling reservation inquiries

- `action_OTA_HotelRatePlanNotif`
  the server implements handling package availability notifications

AlpineBits **requires** a server to support at least all mandatory housekeeping actions.

All other capabilities are optional. It is a **client's responsibility** to check for server capabilities before trying to use them. A server implementation is free to ignore information that requires a capability it doesn't declare. A server **must**, however, implement all capabilities it declares.

3.3. Unknown or missing actions

Upon receiving a request with an unknown or missing value for action, the server response is the string: `ERROR:unknown or missing action`.

3.4. Implementation tips and best practice

- Since the getCapabilities request is authenticated it’s possible for a server to announce different capabilities to different users.
- In the case a server is able to deal both with categories and rooms data, but only accepts restrictions such as DOW and LOS for one of the two, the creation of two independent servers (URLs) is possible.
- OTA requires the root element of an XML document to have a version attribute. As regards AlpineBits, the value of this attribute is irrelevant.

4. Data exchange actions

These actions allow the actual exchange of data between client and server.

The parameter `request` is mandatory. Both, the client request and the server response are XML documents following OTA2010A as specified in the following table.

known as	usage	man-dato-ry	since version	parameter `action` (string)	parameter `request` (XML document)	server response (XML document)
FreeRooms	a client sends room availability notifications to a server	NO	2011-11	`OTA_HotelAvailNotif`	OTA_HotelAvailNotifRQ	OTA_HotelAvailNotifRS
GuestRequests	a client sends a request to receive reservation inquiries from the server	NO	2012-05	`OTA_Read:GuestRequests`	OTA_ReadRQ	OTA_ResRetrieveRS
SimplePackages	a client sends package availability notifications to a server	NO	2012-05	`OTA_HotelRatePlanNotif:SimplePackages`	OTA_HotelRatePlanNotifRQ	OTA_HotelRatePlanNotifRS

AlpineBits **requires** all XML documents to be encoded in **UTF-8**.

The business logic of an AlpineBits server, i.e. how the server processes and stores the information it receives is implementation-specific.

The format of the requests and responses is, however, exactly specified.

First of all the requests and responses **must** validate against the OTA2010A schema.

Since OTA is very flexible regarding mandatory / optional elements, AlpineBits adds extra requirements about exactly which elements and attributes are required in a request.

If these are not present, a server's business logic is bound to fail and will return a response indicating error even though the request is valid OTA2010A.

OTA20120A, for instance allows OTA_HotelAvailNotifRQ requests that do not indicate the hotel, this might make perfect sense in some context, but an AlpineBits server will return an error if that information is missing from the request.

To aid developers, a set of AlpineBits XML Schema and Relax NG files are provided as integral part of the specification in the AlpineBits documentation kit. The Relax NG file set is the stricter of the two, because Relax NG is more powerful in expressing constraints on how elements and attributes depend on each other.

Both, the XML Schema and the Relax NG files, are stricter than OTA2010A in the sense that all documents that validate against AlpineBits will also validate against OTA2010A, but not vice versa.

The AlpineBits documentation kit also provides a sample file for each of the request and response documents.

The latest AlpineBits documentation kit for each protocol version is available from the official AlpineBits website.

4.1. FreeRooms: Room availability notifications

When the value of the `action` parameter is `OTA_HotelAvailNotif` the client intends to send room availability notifications to the server.

A server that supports this action **must** support at least one out of the two capabilities `OTA_HotelAvailNotif_accept_rooms` or `OTA_HotelAvailNotif_accept_categories`. This way the server indicates whether it can handle the availability of rooms at the level of distinct rooms, at the level of categories of rooms or both.

Client Request

The parameter `request` must contains an OTA_HotelAvailNotifRQ document. Following is a detailed description of the form of this document using the sample file from the documentation kit.

First, consider the outer part of the document:

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

<OTA_HotelAvailNotifRQ
        xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
        xmlns="http://www.opentravel.org/OTA/2003/05"
        xsi:schemaLocation="http://www.opentravel.org/OTA/2003/05 OTA_HotelAvailNotifRQ.xsd"
        Version="1.002">

    <AvailStatusMessages HotelCode="123" HotelName="Frangart Inn">

        <!-- ... see below ... -->

    </AvailStatusMessages>

</OTA_HotelAvailNotifRQ>
```

sample-FreeRooms-OTA_HotelAvailNotifRQ.xml - outer part

An OTA_HotelAvailNotifRQ may contain just **one** `AvailStatusMessages` (note the plural) element, hence at most **one** hotel can be dealt with in a single request.

AlpineBits requires the attributes `HotelCode` or `HotelName` to be present (and match information in the server's database). The fictitious hotel in the example is the "Frangart Inn" with code "123". Specifying both — code and name — is redundant, but allowed, as long as both are consistent.

AlpineBits **requires** a match of `HotelCode`, `HotelName` to be **case sensitive**.

Second, consider the inner part of the example that contains `AvailStatusMessage` (note the singular) elements for three different rooms.

Let's start with the availabilities for room 101S.

```
<AvailStatusMessage BookingLimit="1" BookingLimitMessageType="SetLimit">

    <StatusApplicationControl Start="2010-08-01" End="2010-08-10"
                              InvCode="101S" IsRoom="true"/>

</AvailStatusMessage>

<AvailStatusMessage BookingLimit="1" BookingLimitMessageType="SetLimit">

    <StatusApplicationControl Start="2010-08-21" End="2010-08-30"
                              InvCode="101S" IsRoom="true"/>

</AvailStatusMessage>
```

sample-FreeRooms-OTA_HotelAvailNotifRQ.xml - inner part (1/3)

The **IsRoom** attribute is true, indicating we're dealing with a specific room. Hence **InvCode** indicates the room identifier (101S). Alternatively, a false value for **IsRoom** would indicate a category of rooms with **InvCode** being the category name.

AlpineBits **requires** a match of **InvCode** to be **case sensitive**.

An AlpineBits server **must** be able to treat **at least** one case out of the two cases for **IsRoom** (true or false). A client should perform the `getCapabilities` action to find out whether the server treats the room case (token `OTA_HotelAvailNotif_accept_rooms`), the category case (token `OTA_HotelAvailNotif_accept_categories`) or both.

Mixing rooms and categories in a single request is not allowed. An AlpineBits server **must** return an error if it receives such a mixed request.

The attribute **Start** and **End** indicate that room 101S is available from 2010-08-01 to 2010-08-10 and from 2010-08-21 to 2010-08-30.

Regarding the first interval, this means the earliest possible check-in is 2010-08-01 afternoon and latest possible check-out is 2010-08-11 morning (maximum stay is 10 nights).

Since there are no further restrictions, check-ins **after** 2010-08-01 and stays of **less** than 10 nights are allowed as well, provided the check-out is not later than 2010-08-11 morning.

Idem for the other block of 10 nights from 2010-08-21 to 2010-08-30 (latest check-out is 2010-08-31 morning).

Since a specific room is indicated here, the only meaningful value of **BookingLimit** is 0 or 1 (the same room can not be available more than once). In the category case, numbers larger than 1 would also be allowed.

BookingLimit numbers are always interpreted to be absolute numbers. Differential updates are not allowed.

Note that AlpineBits does **not allow** **AvailStatusMessage** elements with overlapping periods. This implies that the order of the **AvailStatusMessage** elements doesn't matter. It is a **client's responsibility** to avoid overlapping. An AlpineBits server's business logic **may** identify overlapping and return an error or **may** proceed in a implementation-specific way.

AlpineBits **requires** the **AvailStatusMessage** attributes **BookingLimit** and **BookingLimitMessageType** to be given. It also requires exactly one **StatusApplicationControl** element with attributes **Start**, **End**, **InvCode** and **IsRoom** for each **AvailStatusMessage** element. It **must** return an error if any of these are missing.

Next: the availabilities for room 102.

```
<AvailStatusMessage BookingLimit="1" BookingLimitMessageType="SetLimit">

    <StatusApplicationControl Start="2010-08-14" End="2010-08-27"
                              InvCode="102" IsRoom="true" Sat="true" />

    <LengthsOfStay>

        <LengthOfStay MinMaxMessageType="SetMinLOS" Time="7" TimeUnit="Day"/>

        <LengthOfStay MinMaxMessageType="SetMaxLOS" Time="7" TimeUnit="Day"/>

    <LengthsOfStay>

<AvailStatusMessage>
```

sample-FreeRooms-OTA_HotelAvailNotifRQ.xml - inner part (2/3)

Room 102 is available from 2010-08-14 to 2010-08-27, but allows arrivals only on Saturdays and requires a stay of 7 nights.

That means there are two blocks that can be sold:

- arrival Saturday 2010-08-14, stay 7 nights, departure Saturday 2010-08-21 morning
- arrival Saturday 2010-08-21, stay 7 nights, departure Saturday 2010-08-28 morning

Restrictions on arrivals to certain days of week (DOWs) must be indicated by setting the corresponding DOW attributes to true: **`Mon`**, **`Tue`**, **`Wed`**, **`Thu`**, **`Fri`**, **`Sat`** or **`Sun`**.

A DOW attribute set to false has the same meaning as if missing. If neither of these attributes is set to true, there are no DOW restrictions at all.

An AlpineBits server **might** ignore DOW restrictions silently. It is the **client's responsibility** to check whether the server supports DOW restrictions performing the `getCapabilities` action: the token to look for is `OTA_HotelAvailNotif_accept_dow`.

Restrictions on length of stay (LOS) must be indicated using one or two **`LengthOfStay`** elements with the **`MinMaxMessageType`** attribute set to `SetMinLOS` or `SetMaxLOS`. AlpineBits expects the **`TimeUnit`** to always be `Day`.

Note that LOS restrictions are considered to be "on arrival" not "stay through". That means only the LOS restriction of the arrival day applies.

Again, an AlpineBits server **might** ignore LOS restrictions silently. It is the **client's responsibility** to check whether the server supports LOS restrictions performing the `getCapabilities` action: the token to look for is `"OTA_HotelAvailNotif_accept_los"`.

The last **`AvailStatusMessage`** in the example is about room 103.

```
<AvailStatusMessage BookingLimit="1" BookingLimitMessageType="SetLimit">
        <StatusApplicationControl Start="2010-08-01" End="2010-08-31"
                                  InvCode="103" IsRoom="true"/>
</AvailStatusMessage>
```

`sample-FreeRooms-OTA_HotelAvailNotifRQ.xml` - inner part (3/3)

Room 103 is available in August (earliest check-in 2010-08-01 afternoon and latest check-out 2010-09-01 morning) with no further restrictions.

A final, very important, point is that AlpineBits **requires** either **every room** or **every category** to be mentioned in a request! The server has knowledge about each hotel's complete set of room identifiers and/or complete set of category names and **must** answer with an error to requests that do not mention all rooms/categories or that contain unknown rooms/categories.

This is necessary in order to safeguard against situations where a server's database is not kept up to date with regard to a hotel's capacity.

Client Request Elements and Attributes

Name of **Element** / *Attribute*	Annotations	Mand	Rept	Children of/Attribute of
OTA_HotelAvailNotifRQ		**yes**	**no**	**- (root element)**
AvailStatusMessages		yes	no	OTA_HotelAvailNotifRQ
HotelCode	either this or HotelName are mandatory	*	no	AvailStatusMessages
HotelName	either this or HotelCode are mandatory	*	no	AvailStatusMessages
AvailStatusMessage		**yes**	**yes**	**AvailStatusMessages**
BookingLimit		yes	no	AvailStatusMessage
BookingLimitMessageType	mandatory value: "SetLimit"	yes	no	AvailStatusMessage
StatusApplicationControl		**yes**	**no**	**AvailStatusMessage**
Start	First day available for checkin/stay of guest.	yes	no	StatusApplicationControl
End	Last day available for checkin/stay of guest. Departure is the morning after this date.	yes	no	StatusApplicationControl
InvCode		yes	no	StatusApplicationControl
IsRoom	"true" for rooms, "false" for categories	yes	no	StatusApplicationControl
Mon	"true" or "false"	no	no	StatusApplicationControl
Tue	"true" or "false"	no	no	StatusApplicationControl
Wed	"true" or "false"	no	no	StatusApplicationControl
Thu	"true" or "false"	no	no	StatusApplicationControl
Fri	"true" or "false"	no	no	StatusApplicationControl
Sat	"true" or "false"	no	no	StatusApplicationControl
Sun	"true" or "false"	no	no	StatusApplicationControl
LengthsOfStay		**no**	**no**	**AvailStatusMessage**
LengthOfStay		**no**	**yes**	**LengthsOfStay**
MinMaxMessageType	"SetMinLOS" or "SetMaxLOS"	yes	no	LengthOfStay
Time		yes	no	LengthOfStay
TimeUnit	mandatory value: "Day"	yes	no	LengthOfStay

Server response

The server response is a OTA_HotelAvailNotifRS document indicating success or failure.

In case of success, the OTA_HotelAvailNotifRS response will contain an empty **Success** element. In case of failure it will contain one or more **Error** elements each spotting a **Type** attribute. Exactly what errors a server will trap is implementation-specific, but the value of the type attribute **must** follow the OTA2010A error code table that comes with the OTA2010A documentation package [3].

Following are two examples of responses, one indicating success and one indicating an error:

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

<OTA_HotelAvailNotifRS
        xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
        xmlns="http://www.opentravel.org/OTA/2003/05"
        xsi:schemaLocation="http://www.opentravel.org/OTA/2003/05 OTA_HotelAvailNotifRS.xsd"
        Version="1.001">

       <Success/>

</OTA_HotelAvailNotifRS>
```

sample-FreeRooms-OTA_HotelAvailNotifRS-success.xml

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

<OTA_HotelAvailNotifRS
        xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
        xmlns="http://www.opentravel.org/OTA/2003/05"
        xsi:schemaLocation="http://www.opentravel.org/OTA/2003/05 OTA_HotelAvailNotifRS.xsd"
        Version="1.001">

    <Errors>
        <Error Type="113">
            missing information, need AvailStatusMessage element for all rooms
        </Error>
    </Errors>

</OTA_HotelAvailNotifRS>
```

sample-FreeRooms-OTA_HotelAvailNotifRS-error.xml

Server Response Elements and Attributes

Name of **Element** / *Attribute*	Annotations	Mand	Rept	Children of/Attribute of
OTA_HotelAvailNotifRS		**yes**	**no**	**- (root element)**
Success		**no**	**no**	**OTA_HotelAvailNotifRS**
Errors		**no**	**no**	**OTA_HotelAvailNotifRS**
Error		**no**	**yes**	**Errors**
Type		yes	no	Error

Implementation tips and best practice

- Note that in the 2011-11 version of AlpineBits the support of this action was mandatory for the server. This is no longer the case.
- An element **`StatusApplicationControl`** containing all the DOW attributes (**`Mon`**, **`Tue`**, **`Wed`**, **`Thu`**, **`Fri`**, **`Sat`**, **`Sun`**) set to true has the same meaning as no DOW restriction at all.
- If a room/category is occupied for the entire period that is being transmitted its availability must be transmitted (even though its value is 0) because the entire inventory must be sent.
- Since no time frame is explicitly transmitted by the client, a server is encouraged to delete and insert all the information stored in its backend, rather than updating it.
- Please note that the **`End`** date of an interval identifies the last day and night of the stay. Departure is the morning of the date after the **`End`** date.

4.2. GuestRequests: Reservation inquiries

When the value of the **action** parameter is `OTA_Read:GuestRequests`, the client (typically the software used by a hotel) sends a request to obtain reservation inquiries from the server (typically a portal that has collected inquiries by a customer).

Inquiries can be either requests for quotes or actual book requests.

Please note that GuestRequests at this point just supports the flow of inquiry data (request for quotes or booking requests) from the server to the client:

- GuestRequests in AlpineBits **do not aim** at covering the whole customer-hotel interaction: upon receiving an inquiry, the hotel is supposed to contact the customer directly to provide a quote or confirm/refuse a booking, as well as to deal with possible cancellations etc.
- Also, GuestRequests **do not aim** at formalizing all possible aspects of an inquiry using machine readable codes in a way that would be required for a fully automating booking process without human intervention.

Client Request

The parameter **request** must contains a OTA_ReadRQ document.

For the **mandatory** attributes **HotelCode** and **HotelName** the rules are the same as for room availability notifications (section 4.1).

The element **SelectionCriteria** with the **Start** attribute is **optional**. When given, the server will send only inquiries generated after the **Start** timestamp. Otherwise it will send all inquiries it has on record.

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

<OTA_ReadRQ xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
            xmlns="http://www.opentravel.org/OTA/2003/05"
            xsi:schemaLocation="http://www.opentravel.org/OTA/2003/05 OTA_ReadRQ.xsd"
            Version="1.001">

    <ReadRequests>
       <HotelReadRequest HotelCode="123" HotelName="Frangart Inn">
           <SelectionCriteria Start="2012-03-21T15:00:00+01:00"></SelectionCriteria>
       </HotelReadRequest>
    </ReadRequests>

</OTA_ReadRQ>
```

sample-GuestRequests-OTA_ReadRQ.xml

Client Request Elements and Attributes

Name of **Element** / *Attribute*	Annotations	Mand	Rept	Children of/Attribute of
OTA_ReadRQ		**yes**	**no**	**- (root element)**
ReadRequests		**yes**	**no**	**OTA_ReadRQ**
HotelReadRequest		**yes**	**no**	**ReadRequests**
HotelCode	either this or HotelName are mandatory	*	no	HotelReadRequest
HotelName	either this or HotelCode	*	no	HotelReadRequest

	are mandatory			
SelectionCriteria		**no**	**no**	**HotelReadRequest**
Start		yes	no	SelectionCriteria

Server Response

The server response is a OTA_ResRetrieveRS document indicating success or failure.

In case of success, the OTA_ResRetrieveRS response will contain an empty **Success** element. In case of failure it will contain one or more **Error** elements. The behaviour is the same as for the room availability notification case (see section 4.1). Following is a **ReservationsList** element with **zero or more HotelReservation** elements containing the inquiries (zero elements indicate the server has no inquiries for the client at this point).

Shown here is the outer part of a OTA_ResRetrieveRS document.

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

<OTA_ResRetrieveRS
        xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
        xmlns="http://www.opentravel.org/OTA/2003/05"
        xsi:schemaLocation="http://www.opentravel.org/OTA/2003/05 OTA_ResRetrieveRS.xsd"
        Version="2.000">

    <Success/>

    <ReservationsList>

        <HotelReservation CreateDateTime="2012-03-21T15:00:00+01:00"
                          ResStatus="Book">

             <!-- Type 14 -> Reservation -->
            <UniqueID Type="14" ID="6b34fe24ac2ff810"/>

            <RoomStays>      <!-- stays, see below -->                    </RoomStays>

            <ResGuests>      <!-- customer data, see below -->            </ResGuests>

            <ResGlobalInfo>  <!-- additional booking data, see below -->  </ResGlobalInfo>

       </HotelReservation>

    </ReservationsList>

</OTA_ResRetrieveRS>
```

sample-GuestRequests-OTA_ResRetrieveRS-book.xml - outer part

Each **HotelReservation** **must** have the attributes **CreateDateTime** (the timestamp the customer inquiry was collected by the portal). Furthermore the **ResStatus** attribute **must** be set. AlpineBits expects it to be equal to either `Quote` (this is just a customer inquiry for a **quote**) or `Book` (this is a customer **book** request).

The example discussed in this section is a **book** request, the documentation kit also has an example of a **quote** request.

Each **HotelReservation** contains a **mandatory UniqueID** element that the client can use to recognize an inquiry it has already processed. The current release of AlpineBits **requires** the server to not change any information in later exchanges once a unique id has been assigned. This might change in a future versions of AlpineBits, though.

The **UniqueID** element **must** be of **Type** 14 (meaning reservation per OTA code table) and the **ID** **must** be a 16 digit hex string, uniquely identifying the **HotelReservation**.

The actual data is then split into three parts: each **HotelReservation** contains the elements: **RoomStays**, **ResGuests** and **ResGlobalInfo** (all **mandatory**) discussed in the following paragraphs.

First part: RoomStays.

The **RoomStays** element contains **one or more RoomStay** elements, each indicating a desired stay.

```
<RoomStays>

    <RoomStay>

        <RoomTypes>
            <RoomType RoomTypeCode="megasuite"/>
        </RoomTypes>

        <RatePlans>
            <RatePlan>
                <!-- Code 1 -> All inclusive -->
                <MealsIncluded MealPlanCodes="1"
                               Breakfast="true" Lunch="true" Dinner="true"/>
            </RatePlan>
        </RatePlans>

        <!-- 2 adults + 1 child + 1 child = 4 guests -->
        <GuestCounts>
            <!-- 2 adults -->
            <GuestCount Count="2"/>
            <!-- 1 child -->
            <GuestCount Count="1" Age="9"/>
            <!-- 1 child -->
            <GuestCount Count="1" Age="3"/>
        </GuestCounts>

        <TimeSpan Duration="P11N">
            <StartDateWindow EarliestDate="2012-01-01" LatestDate="2012-01-01"/>
        </TimeSpan>

        <Total AmountAfterTax="299" CurrencyCode="EUR"/>

    </RoomStay>

</RoomStays>
```

sample-GuestRequests-OTA_ResRetrieveRS-book.xml - **RoomStay** element

Each **RoomStay** element contains:

- **one RoomType** element (**mandatory** for **book** requests, **optional** for **quote** requests) with a **RoomTypeCode** attribute that defines the desired room category for this stay; in the likely case that the implementation also manages the FreeRooms action, this **RoomTypeCode** attribute should be identical to the **InvCode** attribute used for room categories (see section 4.1)
- **one MealsIncluded** element (**mandatory** for **book** requests, **optional** for **quote** requests): the attributes **Breakfast**, **Lunch** and **Dinner** are set to true or false - all three **must** be be given, even where the value is false; the optional attribute **MealPlanCodes** must be set to 1 when indicating an *all inclusive* formula in addition to *full board* (**Breakfast**, **Lunch** and **Dinner** set to true)
- **one GuestCount** element (**mandatory**) indicating the number of all adults (identified by **one GuestCount** element **with no Age** attribute given) and the number of all children (identified by **zero or more GuestCount** element **with Age** attribute given); of course **all** guests must be listed

- **one** `TimeSpan` element (**mandatory**): see below for explanation
- **one** `Total` element (**mandatory** for **book** requests, **optional** for **quote** requests) containing the cost after taxes the portal has displayed to the customer, both attributes `AmountAfterTax` and `CurrencyCode` are required.

The `TimeSpan` element deserves a more detailed explanation.

The start date of the desired stay is the date of the check-in. It is **mandatory** and **always** given in windows form using the `StartDateWindow` element with attributes `EarliestDate` and `LatestDate`.

For **quote** requests `LatestDate` **might be greater** than `EarliestDate` indicating a range of possible start dates.

For **book** requests `LatestDate` **must be equal** to `EarliestDate` indicating the exact start date.

The `Duration` attribute of the `TimeSpan` is also mandatory and encoded in ISO 8601. AlpineBits accepts only durations given in nights, the form is thus always PxN where x is a number.

If multiple `RoomStay` elements are given, all the `TimeSpan` elements must have exactly the same values.

As a special case, however, **only** for **quote** requests, it is possible to add **at most one optional** `RoomStay` element that contains **only** the `TimeSpan` element. In this case, this last `TimeSpan` is allowed to have different values (as a matter of fact, they must be different) and it ought to be interpreted by the client as an alternative period with regard to the preceding `RoomStay` element(s).

Second part: `ResGuests`.

Nested inside the `ResGuests` element is **exactly one** `Customer` element, giving the data of the primary guest.

The `Gender` attribute is **mandatory**, but can be `Unknown`, besides `Male` or `Female`.

The `BirthDate` attribute (ISO 8601) is **optional**.

The `Language` attribute is **mandatory**, it must follow ISO 639-1 (two-letter lowercase language abbreviation). It identifies the language to be used when contacting the customer.

```
<ResGuests>
    <ResGuest>
        <Profiles>
            <ProfileInfo>
                <Profile>

                    <Customer Gender="Male" BirthDate="1980-01-01" Language="de">

                        <PersonName>
                            <NamePrefix>Herr</NamePrefix>
                            <GivenName>Otto</GivenName>
                            <Surname>Mustermann</Surname>
                            <NameTitle>Dr</NameTitle>
                        </PersonName>

                        <!-- Code 1 -> Voice -->
                        <Telephone PhoneTechType="1" PhoneNumber="+4934567891"/>
                        <!-- Code 3 -> Fax -->
                        <Telephone PhoneTechType="3" PhoneNumber="+4934567892"/>
                        <!-- Code 5 -> Mobile -->
                        <Telephone PhoneTechType="5" PhoneNumber="+4934567893"/>

                        <Email Remark="newsletter:yes">otto.mustermann@example.com</Email>

                        <Address Remark="catalog:yes">

                            <AddressLine>Musterstraße 1</AddressLine>
                            <CityName>Musterstadt</CityName>
```

```
                        <PostalCode>1234</PostalCode>
                        <CountryName Code="DE"/>

                    </Address>

                </Customer>

            </Profile>
        </ProfileInfo>
    </Profiles>
</ResGuest>
</ResGuests>
```

sample-GuestRequests-OTA_ResRetrieveRS-book.xml - **Customer** element

The **Customer** element contains:

- **one PersonName** element (**mandatory**) with **NamePrefix** (**optional**), **GivenName** (**mandatory**), **Surname** (**mandatory**) and **NameTitle** (**optional**)
- **one or more Telephone** elements (either at least one **Telephone** element or the **Email** element is **mandatory**)
- **one Email** element (either at least one **Telephone** element or the **Email** element is **mandatory**)
- **one Address** element (**mandatory** for **book** requests, **optional** for **quote** requests) with **AddressLine**, **CityName**, **PostalCode** and **CountryName** with **Code** (all **mandatory)**

The **Telephone** element contains the **optional PhoneTechType** attribute: it indicates the phone technology (1 → voice, 3 → fax, 5 → mobile per OTA code table).

The **Email** element contains the **optional** attribute **Remark** having either values `newsletter:yes` or `newsletter:no` indicating whether the customer does or does not wish to receive an email newsletter. A missing **Remark** indicates the information is not known and should be treated the same way as if a `newsletter:no` was given (do not send a newsletter).

Analogously, the **Address** element contains the **optional** attribute **Remark** having either values `catalog:yes` or `catalog:no` indicating whether the customer does or does not wish to receive print ads by mail. A missing **Remark** indicates the information is not known and should be treated the same way as if a `catalog:no` was given (do not send mail).

The **Code** attribute in **CountryName** **must** follow ISO 3166-1 alpha-2 (two-letter uppercase country codes).

Third part: ResGlobalInfo.

```
<ResGlobalInfo>

    <Comments>

        <Comment Name="included services">
            <ListItem ListItem="1" Language="de">Parkplatz</ListItem>
            <ListItem ListItem="2" Language="de">Schwimmbad</ListItem>
            <ListItem ListItem="3" Language="de">Skipass</ListItem>
        </Comment>

        <Comment Name="customer comment">
            <Text>
                Sind Hunde erlaubt?

                Mfg.
                Otto Mustermann.
            </Text>
        </Comment>
```

```
    </Comments>

    <CancelPenalties>
        <CancelPenalty>
            <PenaltyDescription>
                <Text>
                Cancellation is handled by hotel.
                Penalty is 50%, if canceled within 3 days before show, 100% otherwise.
                </Text>
            </PenaltyDescription>
        </CancelPenalty>
    </CancelPenalties>

    <HotelReservationIDs>
        <!-- ResID_Type 13 -> Internet Broker -->
        <HotelReservationID ResID_Type="13"
                            ResID_Value="Slogan"
                            ResID_Source="www.example.com"
                            ResID_SourceContext="top banner" />
    </HotelReservationIDs>


</ResGlobalInfo>
```

sample-GuestRequests-OTA_ResRetrieveRS-book.xml - **ResGlobalInfo** element

The **ResGlobalInfo** element contains:

- **one Comment** element (**optional**) with attribute **Name** set to `included services` containing the included services given **as free text fields** using **ListItem** elements (see below). In most cases the AlpineBits client software will just display this to a human hotel employee with no further processing
- **one Comment** element (**optional**) with attribute **Name** set to `customer comment` containing a single **Text** element freely filled out by the customer and fed through unchecked by the portal
- **only allowed for book requests, one PenaltyDescription** element (**mandatory**) containing a **single Text** element with no attributes that clearly states the cancellation policy the portal and the hotel have previously agreed upon and the portal has communicated to the customer - the language or languages of this text is chosen by the portal
- **one HotelReservationID** element (**optional**) that can be used for internet campaign management: **ResID_Type must** be given and equal 13 (internet broker) and the three attributes **ResID_Value**, **ResID_Source** and **ResID_SourceContext** (**all optional**) identify, respectively, the campaign name (Slogan in our example), the campaign source (www.example.com) and the campaign marketing medium (top banner) following the scheme used by Google Analytics

Each **ListItem** element **must** have **Language** and **ListItem** attributes. At most **one ListItem** element is allowed for each combination of **Language** and **ListItem**.

Server Response Elements and Attributes

Name of **Element** / *Attribute*	Annotations	Mand	Rept	Children of/Attribute of
OTA_ResRetrieveRS		**yes**	**no**	**- (root element)**
Success		**no**	**no**	**OTA_ResRetrieveRS**
ReservationsList		**no**	**no**	**OTA_ResRetrieveRS**
HotelReservation		**no**	**yes**	**ReservationsList**

CreateDateTime		yes	no	HotelReservation
ResStatus	"Book" or "Quote"	yes	no	HotelReservation
UniqueID		**yes**	**no**	**HotelReservation**
Type	mandatory value: "14"	yes	no	UniqueID
ID	format: 16 hex digits	yes	no	UniqueID
RoomStays		**yes**	**no**	**HotelReservation**
RoomStay	**please note the special case for "Quote" requests wrt. alternative periods (see text)**	**yes**	**yes**	**RoomStays**
RoomTypes	**mandatory if ResStatus="book"**	*****	**no**	**RoomStay**
RoomType	**mandatory if ResStatus="book"**	*****	**no**	**RoomTypes**
RoomTypeCode		yes	no	RoomType
RatePlans		**yes**	**no**	**RoomStay**
RatePlan		**yes**	**no**	**RatePlans**
MealsIncluded	**mandatory if ResStatus="book"**	*****	**no**	**RatePlan**
Breakfast		yes	no	MealsIncluded
Lunch		yes	no	MealsIncluded
Dinner		yes	no	MealsIncluded
MealPlanCodes	value "1" means "All inclusive"	no	no	MealsIncluded
GuestCounts		**yes**	**no**	**RoomStay**
GuestCount	**at least one element must be present without "Age" attribute**	*****	**yes**	**GuestCounts**
Age		no	no	GuestCount
Count		yes	no	GuestCount
TimeSpan		**yes**	**no**	**RoomStay**
Duration		yes	no	TimeSpan
StartDateWindow		**yes**	**no**	**TimeSpan**
EarliestDate		yes	no	StartDateWindow
LatestDate		yes	no	StartDateWindow
Total	**mandatory if ResStatus="book"**	*****	**no**	**RoomStay**
AmountAfterTax		yes	no	Total

CurrencyCode		yes	no	Total
ResGuests		**yes**	**no**	**HotelReservation**
ResGuest		**yes**	**no**	**ResGuests**
Profiles		**yes**	**no**	**ResGuest**
ProfileInfo		**yes**	**no**	**Profiles**
Profile		**yes**	**no**	**ProfileInfo**
Customer		**yes**	**no**	**Profile**
Gender	Values: "Male", "Female", "Unknown"	yes	no	Customer
BirthDate	Format: ISO 8601	no	no	Customer
Language	Format: ISO 639-1	yes	no	Customer
PersonName		**yes**	**no**	**Customer**
NamePrefix		**no**	**no**	**PersonName**
GivenName		**yes**	**no**	**PersonName**
Surname		**yes**	**no**	**PersonName**
NameTitle		**no**	**no**	**PersonName**
Telephone	**either at least one of this or Email is mandatory**	*****	**yes**	**Customer**
PhoneTechType		yes	no	Telephone
PhoneNumber		yes	no	Telephone
Email	**either this or at least one Telephone is mandatory**	*****	**no**	**Customer**
Remark	value "newsletter:yes" or "newsletter:no". If missing assume "newsletter:no"	no	no	Email
Address	**mandatory if ResStatus="book"**	*****	**no**	**Customer**
Remark	value "catalog:yes" or "catalog:no". If missing assume "catalog:no"	no	no	Address
AddressLine		**yes**	**no**	**Address**
CityName		**yes**	**no**	**Address**
PostalCode		**yes**	**no**	**Address**
CountryName		**yes**	**no**	**Address**
Code	Format: ISO 3166-1	yes	no	CountryName
ResGlobalInfo	**can be empty**	**yes**		**HotelReservation**

Comments		**no**		**ResGlobalInfo**
Comment		**no**	**yes**	**Comments**
Name	Values: "included services" or "customer comment"	yes	no	Comment
ListItem		**no**	**yes**	**Comment with name="included services"**
ListItem		yes	no	ListItem
Language		yes	no	ListItem
Text		**no**	**no**	**Comment with name="customer comment"**
CancelPenalties	**mandatory if ResStatus="book"**	*****	**no**	**ResGlobalInfo**
CancelPenalty	**mandatory if ResStatus="book"**	*****	**no**	**CancelPenalties**
PenaltyDescription	**mandatory if ResStatus="book"**	*****	**no**	**CancelPenalty**
Text	**mandatory if ResStatus="book"**	*****	**no**	**PenaltyDescription**
HotelReservationIDs		**no**	**no**	**ResGlobalInfo**
HotelReservationID		**no**	**no**	**HotelReservationIDs**
ResID_Type	value: "13"	yes	no	HotelReservationID
ResID_Value		no	no	HotelReservationID
ResID_Source		no	no	HotelReservationID
ResID_SourceContext		no	no	HotelReservationID

Implementation tips and best practice

- If a non-standard **MealsIncluded** has to be transmitted, consider using the closest standard **MealsIncluded** combination. This needs prior agreement among the parts, which is not covered by AlpineBits. For example in South-Tyrol some hotels offer "Dreiviertel-Pension" (half board plus afternoon snack, hence a non-standard **MealsIncluded** combination) to their guests. This may be transmitted as half board, since "Dreiviertel-Pension" replaces half board for these hotels.
- The value of the **PhoneNumber** attribute (element **Telephone**) should contain the standard international format (as in +<country code><phone number>) whenever possible.

4.3. SimplePackages: Package availability notifications

When the value of the `action` parameter is `OTA_HotelRatePlanNotif:SimplePackages` the client intends to send package availability notifications to the server.

Please note that SimplePackages **do not aim** at fully describing all possible aspects and properties of a complex package, and in particular they **do not aim** aim at describing all properties in a fully machine processable way. Information given as free text is typically intended to be visualized on a portal, not as an input to a fully automated booking workflow (hence the name *"Simple"*).

The availability of multiple packages may be transmitted within a single request, which **must** be treated in a single transaction by the server. Hence an error response means that **no data** has been accepted by the server.

Client Request (notify package availability)

The parameter `request` **must** contains an OTA_HotelRatePlanNotifRQ document with **one or more** `RatePlan` elements each describing an available package. The **mandatory** `Start` and `End` attributes indicate the start and end dates (ISO 8601) of the package's public visibility. Following is the outer part of the request document.

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

<OTA_HotelRatePlanNotifRQ
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xmlns="http://www.opentravel.org/OTA/2003/05"
    xsi:schemaLocation="http://www.opentravel.org/OTA/2003/05 OTA_HotelRatePlanNotifRQ.xsd"
    Version="2.001">

    <RatePlans>

        <RatePlan Start="2012-01-01" End="2012-12-31">

            <Rates>
                <!-- availability, costs, meals, see below -->
            </Rates>

            <Description Name="title">
                <!-- see below -->
            </Description>

            <Description Name="intro">
                <!-- see below -->
            </Description>

            <Description Name="gallery">
                <!-- see below -->
            </Description>

            <Description Name="details">
                <!-- see below -->
            </Description>

            <UniqueID Type="18" ID="3f6fce1f0da2ef57"/>

            <HotelRef HotelCode="123" HotelName="Frangart Inn"/>

       </RatePlan>

    </RatePlans>

</OTA_HotelRatePlanNotifRQ>
```

sample-SimplePackages-OTA_HotelRatePlanNotifRQ.xml - outer part

Looking towards the end of the document first:

- the **mandatory** **UniqueID** element uniquely identifies the package, it **must** be of **Type** 18 (meaning other per OTA code table) and the **ID** **must** be a 16 digit hex string; if a client sends a notification using an **UniqueID** it has sent before it wishes to update (overwrite) all information stored on the server
- the **mandatory** **HotelRef** element associates a hotel to each package. The attributes **HotelCode** and **HotelName** are described in room availability notifications (section 4.1)

The **mandatory** **Rates** element contains **one or more** **Rate** elements with data about dates, costs and meals:

```
<Rates>

<Rate MinGuestApplicable="2" Start="2012-08-01" End="2012-08-31" Sat="true" Duration="P7N">

    <BaseByGuestAmts>
        <BaseByGuestAmt NumberOfGuests="1" AmountAfterTax="499.00" CurrencyCode="EUR"/>
    </BaseByGuestAmts>

    <RateDescription Name="included services">
        <!-- included services in free text form -->
        <ListItem ListItem="1" Language="en">parking lot (included)</ListItem>
        <ListItem ListItem="2" Language="en">swimming pool (included)</ListItem>
        <ListItem ListItem="3" Language="en">full board (+25 EUR)</ListItem>
        <ListItem ListItem="1" Language="it">parcheggio</ListItem>
        <ListItem ListItem="2" Language="it">piscina</ListItem>
        <ListItem ListItem="3" Language="it">pensione completa (+25 EUR)</ListItem>
        <ListItem ListItem="1" Language="de">Parkplatz</ListItem>
        <ListItem ListItem="2" Language="de">Schwimmbad</ListItem>
        <ListItem ListItem="3" Language="de">Vollpension (+25 EUR)</ListItem>
    </RateDescription>

    <MealsIncluded Breakfast="true" Lunch="false" Dinner="true"/>

</Rate>

<Rate MinGuestApplicable="2" Start="2012-12-01" End="2012-12-31" Sat="true" Duration="P7N">

    <BaseByGuestAmts>
        <BaseByGuestAmt NumberOfGuests="1" AmountAfterTax="599.00" CurrencyCode="EUR"/>
    </BaseByGuestAmts>

    <RateDescription Name="included services">
        <!-- included services in free text form -->
        <ListItem ListItem="1" Language="en">parking lot</ListItem>
        <ListItem ListItem="2" Language="en">skipass</ListItem>
        <ListItem ListItem="1" Language="it">parcheggio</ListItem>
        <ListItem ListItem="2" Language="it">skipass</ListItem>
        <ListItem ListItem="1" Language="de">Parkplatz</ListItem>
        <ListItem ListItem="2" Language="de">Skipass</ListItem>
    </RateDescription>

    <MealsIncluded Breakfast="true" Lunch="true" Dinner="true"/>

</Rate>

</Rates>
```

sample-SimplePackages-OTA_HotelRatePlanNotifRQ.xml - **Rate** elements

In the example the first of the two **Rate** elements means that the package is 7 nights with arrival date any Saturday in August 2012 (attributes **Start** and **End** are **mandatory**, for optional **Sat** attribute and more information on DOW limits see section 4.1). The **Duration** attribute is **mandatory** and is encoded in ISO 8601. AlpineBits allows only durations given in nights, the form is thus always PxN where x is a number.

Total cost is 499 EUR (expressed by **mandatory** attributes **AmountAfterTax** and **CurrencyCode**) per person (**mandatory** attribute **NumberOfGuests**) with a minimum of 2 persons (**mandatory** attribute

MinGuestApplicable). AlpineBits requires **NumberOfGuests** to be always 1. That means package prices are always per person. Also, package prices are always to be considered starting prices: the 499 EUR in this example should be displayed to the customer as "starting from 499 EUR".

The **mandatory** element **MealsIncluded** has attributes **Breakfast**, **Lunch** and **Dinner** set to true or false - all three **must** be be given, even if their value is false; the **optional** attribute **MealPlanCodes** can be used as described in section 4.2, and is not shown in the example.

The included services are given **as free text fields** in the optional **RateDescription** element using **ListItem** elements. Each **ListItem** element **must** have **Language** and **ListItem** attributes. At most **one** **ListItem** element is allowed for each combination of **Language** and **ListItem**. These are intended for display to humans, not for automated processing.

The second **Rate** elements specifies another period of validity of the same package: the example package can be booked also in december, it has full board then, includes a skipass instead of the swimming pool and costs 599 EUR.

Following are four **Description** elements.

```
<!-- the title of the package (plain text),
     repeated for each language -->

<Description Name="title">
    <Text TextFormat="PlainText" Language="en">Hiking in the Atacama Desert</Text>
    <Text TextFormat="PlainText" Language="it">Escursione nel deserto di Atacama</Text>
    <Text TextFormat="PlainText" Language="de">Bergwandern in der Atacamawüste</Text>
</Description>

<!-- the short introductory text (plain text) and optional URLs,
     repeated for each language  -->

<Description Name="intro">

    <Text TextFormat="PlainText" Language="en">
        Lorem ipsum dolor sit amet, consectetur adipisicing elit, sed do eiusmod tempor
        incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud
        exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat.
    </Text>
    <URL>http://www.alpinebits.org/en/</URL>

    <Text TextFormat="PlainText" Language="it">
        Lorem ipsum dolor sit amet, consectetur adipisicing elit, sed do eiusmod tempor
        incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud
        exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat.
    </Text>
    <URL>http://www.alpinebits.org/it/</URL>

    <Text TextFormat="PlainText" Language="de">
        Lorem ipsum dolor sit amet, consectetur adipisicing elit, sed do eiusmod tempor
        incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud
        exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat.
    </Text>
    <URL>http://www.alpinebits.org/de/</URL>

</Description>

<!-- the images associated with the package: copyright/caption, image and optional URLs,
       repeated for each language -->

<Description Name="gallery">

    <Text TextFormat="PlainText" Language="en">
        (C) 2012 Example Inc.
    </Text>
    <Image>http://www.example.com/image-en.gif</Image>
    <URL>http://www.example.com/en</URL>

    <Text TextFormat="PlainText" Language="it">
        (C) 2012 Example Inc.
```

```
    </Text>
    <Image>http://www.example.com/image-it.gif</Image>
    <URL>http://www.example.com/it</URL>

    <Text TextFormat="PlainText" Language="de">
        (C) 2012 Example Inc.
    </Text>
    <Image>http://www.example.com/image-de.gif</Image>
    <URL>http://www.example.com/de</URL>

</Description>


<!-- the detail description as texts (plain text, HTML) or ListItems,
     repeated for each language -->

<Description Name="details">

    <Text TextFormat="PlainText" Language="en">
       Lorem ipsum dolor sit amet, consectetur adipisicing elit, sed do eiusmod tempor
       incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud
       exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat.
    </Text>
    <Text TextFormat="HTML" Language="en">
        <![CDATA[
        Duis aute <b>irure dolor</b> in reprehenderit involuptate velit esse cillum dolore
        eu <a href="http://www.alpinebits.org/">fugiat nulla pariatur</a>. Excepteur sint
        occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim
        id est laborum.
        ]]>
    </Text>
    <ListItem ListItem="1" Language="en">commodo consequat</ListItem>
    <ListItem ListItem="2" Language="en">voluptate velit</ListItem>

    <!-- other languages not shown... -->

</Description>
```

sample-SimplePackages-OTA_HotelRatePlanNotifRQ.xml - **Description** elements

Title.

The first **Description** element has **Name** set to `title` and is **mandatory**. This is the title of the package.

It **must** contain nothing but **Text** elements (at least one). Each **Text** element **must** have **TextFormat** set to `PlainText` and the **Language** attribute **must** be given.

At **most** one **Text** element per language is allowed.

Intro.

The second **Description** element has **Name** set to intro and is mandatory as well. This is the short introductory text of the package with optional URLs.

It must contain one or more **Text** elements. Each **Text** element must have **TextFormat** set to `PlainText` and the **Language** attribute must be given. Each **Text** element can be followed by zero or more **URL** elements.

The **URL** elements are implicitly associated with the text (and the language of the text) that precedes them.

At **most** one **Text** element per language is allowed.

Gallery.

The third **Description** element with **Name** set to `gallery` is **optional**. It contains **one or more** images associated with the package.

For each image there is a **Text** element with the **TextFormat** set to `PlainText`. It describes the caption/copyright for the image. The **Language** attribute is mandatory.

Following the **Text** element is the **mandatory Image** element containing the URL of the image. The **Image** element can be followed by zero or more **URL** elements.

The **Image** and **URL** elements are implicitly associated with the caption/copyright text and the language that precedes them. In the present example there are 3 images.

Of course, there can be more than one **Image** per language.

Details.

The fourth and last **Description** element with **Name** set to `details` is **optional**, it can contain **zero or more Text** elements and **zero or more ListItem** elements. It **must** contain **at least one** element, however.

Each **Text** element **must** have **TextFormat** set to `PlainText` or `HTML`, and the **Language** attribute **must** be given. At most **one Text** element is allowed for each combination of **Language** and **TextFormat**. The presence of a **Text** element with **TextFormat** set to `HTML` is intended as rich text alternative of a **Text** element with **TextFormat** set to `PlainText` of the same **Language** and makes the latter **mandatory**.

Please note that an AlpineBits server is explicitly allowed to **filter, shorten or even skip the HTML content**, therefore the usage of **Text** elements with **TextFormat** set to `HTML` is **not** recommended but left as an option for implementors that absolutely need it.

The **ListItem** elements are intended to provide a structured description of the package that will be shown to the end user. The appearance of the structured description depends on the server implementation, it is not guaranteed to follow the textual description. Each **ListItem** element **must** have **Language** and **ListItem** attributes. At most **one ListItem** element is allowed for each combination of **Language** and **ListItem**.

Client Request (notify that a package is no longer available)

A client that wishes to notify the server that a package is no longer available it will send **one or more RatePlan** elements that only contain a **UniqueID** element and are otherwise empty such as shown in the following example:

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

<OTA_HotelRatePlanNotifRQ
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xmlns="http://www.opentravel.org/OTA/2003/05"
    xsi:schemaLocation="http://www.opentravel.org/OTA/2003/05 OTA_HotelRatePlanNotifRQ.xsd"
    Version="2.001">

    <RatePlans>

        <RatePlan>

            <UniqueID Type="18" ID="3f6fce1f0da2ef57"/>

       </RatePlan>

    </RatePlans>

</OTA_HotelRatePlanNotifRQ>
```

sample-SimplePackages-OTA_HotelRatePlanNotifRQ-remove.xml

A server must return an error response if a client tries to notify that a package not in the server records (**ID**) is no longer available.

Client Request Elements and Attributes

Name of **Element** / *Attribute*	Annotations	Mand	Rept	Children of/Attribute of
OTA_HotelRatePlanNotifRQ		**yes**	**no**	**- (root element)**
RatePlans		**yes**	**no**	**OTA_HotelRatePlanNotifRQ**
RatePlan		**yes**	**yes**	**RatePlans**
Start		yes	no	RatePlan
End		yes	no	RatePlan
Rates		**yes**	**no**	**RatePlan**
Rate		**yes**	**yes**	**Rates**
MinGuestApplicable		yes	no	Rate
Start	Format: ISO 8601	yes	no	Rate
End	Format: ISO 8601	yes	no	Rate
Duration	Format: ISO 8601	yes	no	Rate
Mon	"true" or "false"	no	no	Rate
Tue	"true" or "false"	no	no	Rate
Wed	"true" or "false"	no	no	Rate
Thu	"true" or "false"	no	no	Rate
Fri	"true" or "false"	no	no	Rate
Sat	"true" or "false"	no	no	Rate
Sun	"true" or "false"	no	no	Rate
BaseByGuestAmts		**yes**	**no**	**Rate**
BaseByGuestAmt		**yes**	**no**	**BaseByGuestAmts**
NumberOfGuests	mandatory value: "1"	yes	no	BaseByGuestAmt
AmountAfterTax		yes	no	BaseByGuestAmt
CurrencyCode		yes	no	BaseByGuestAmt
RateDescription		**no**		**Rate**
Name	mandatory value: "included services"	yes	no	RateDescription
ListItem		**no**	**yes**	**RateDescription**
ListItem		yes	no	ListItem
Language		yes	no	ListItem

MealsIncluded		**yes**	**no**	**Rate**
Breakfast		yes	no	MealsIncluded
Lunch		yes	no	MealsIncluded
Dinner		yes	no	MealsIncluded
MealPlanCodes	value "1" means "All inclusive"	no	no	MealsIncluded
Description	**mandatory: one element with Name="title", one element with Name="intro", zero or one elements with Name="gallery", zero or one element with Name="details"**	*****	**yes**	**RatePlan**
Name	allowed values: "title", "intro", "gallery", "details"	yes	no	Description
Text		**yes**	**yes**	**Description**
TextFormat	allowed values: "Plaintext", "HTML" only if parent Description has Name="details"	yes	no	Text
Language		yes	no	Text
URL		**no**	**yes**	**Description with Name="intro" or Name="gallery"**
Image		**no**	**yes**	**Description with Name="gallery"**
ListItem		**no**	**yes**	**Description with Name="details"**
ListItem		yes	no	ListItem
Language		yes	no	ListItem
UniqueID		**yes**	**no**	**RatePlan**
Type	mandatory value: "18"	yes	no	UniqueID
ID	format: 16 hex digits	yes	no	UniqueID
HotelRef		**yes**	**no**	**RatePlan**
HotelCode	either this or HotelName are mandatory	*	no	HotelRef
HotelName	either this or HotelCode are mandatory	*	no	HotelRef

Server response

The server response is a OTA_HotelRatePlanNotifRS document indicating success or failure.

In case of success, the OTA_HotelRatePlanNotifRS response will contain an empty **Success** element. In case of failure it will contain one or more **Error** elements. The behaviour is the same as for the room availability notification case (see section 4.1).

Server Response Elements and Attributes

Name of **Element** / *Attribute*	Annotations	Mand	Rept	Children of/Attribute of
OTA_HotelRatePlanNotifRS		**yes**	**no**	**- (root element)**
Success		**no**	**no**	**OTA_HotelRatePlanNotifRS**
Errors		**no**	**no**	**OTA_HotelRatePlanNotifRS**
Error		**no**	**yes**	**Errors**
Type		yes	no	Error

Implementation tips and best practice

- If a non-standard **MealsIncluded** has to be transmitted, consider using the closest standard **MealsIncluded** combination. This needs prior agreement among the parts, which is not covered by AlpineBits. For example in South-Tyrol some hotels offer "Dreiviertel-Pension" (half board plus afternoon snack, hence a non-standard **MealsIncluded** combination) to their guests. This may be transmitted as half board, since "Dreiviertel-Pension" replaces half board for these hotels.

A. PHP example client code

While `multipart/form-data` POSTs from HTML are commonly encountered in web programming, it might be less obvious how to perform them from a programming language. To avoid compatibility issues across different implementations AlpineBits implementors are **strongly encouraged** to perform POST requests using a supporting API rather than assemble the header and the parts in a low-level way. The following example shows how this can be done using libcURL from PHP:

```
<?php

    $cu = curl_init("http://localhost:8088/alpinebits/sample-server.php");

    curl_setopt($cu, CURLOPT_RETURNTRANSFER, true);
    curl_setopt($cu, CURLOPT_POST,           true);
    curl_setopt($cu, CURLOPT_HTTPAUTH,       CURLAUTH_BASIC);
                                             # in production should be CURLPROTO_HTTPS only
    curl_setopt($cu, CURLOPT_PROTOCOLS,      CURLPROTO_HTTP | CURLPROTO_HTTPS);
    curl_setopt($cu, CURLOPT_USERPWD,        "chris:secret");


    $data = array(
        "action"  => "OTA_HotelAvailNotif",
        "request" => file_get_contents("sample-OTA_HotelAvailNotifRQ.xml")
    );

    curl_setopt($cu, CURLOPT_POSTFIELDS, $data);

    $output = curl_exec($cu);
    $info = curl_getinfo($cu);
    curl_close($cu);

    if ($info["http_code"] != 200) {
        echo "oops: got http status code " . $info["http_code"] . "<br>\n";
    }

    echo "server said:<br>\n";
    echo $output;

?>
```

B. Links

[0] **Creative Commons BY ND license:**
http://creativecommons.org/licenses/by-nd/3.0/

[1] **HTTP basic access authentication:**
http://en.wikipedia.org/wiki/Basic_access_authentication/

[2] **OpenTravel Alliance:**
http://www.opentravel.org/

[3] **OTA2010A documentation package download:**
http://www.opentravel.org/Specifications/ReleaseNotes.aspx?spec=2010A

[4] **OTA2010A XML schema files online:**
http://www.opentravel.org/Specifications/SchemaIndex.aspx?FolderName=2010A

[5] **browsable interface to the above schema files:**
http://adriatic.pilotfish-net.com/ota-modelviewer/