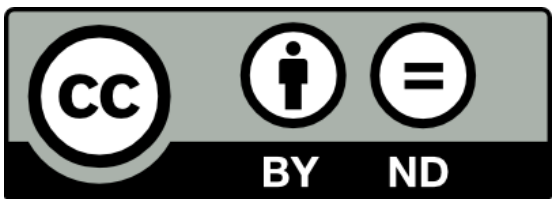
www.alpinebits.org

AlpineBits is an interface specification for exchanging data in the tourism sector, specially tailored for alpine tourism.

The interface is based on XML messages that validate against version 2010A of the OpenTravel Schema by the OpenTravel Alliance.



Disclaimer

This specification is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY.

If you find errors or you have proposals for enhancements, do not hesitate to contact us using the online discussion group: https://groups.google.com/forum/#!forum/alpinebits.

About the AlpineBits Alliance

The “AlpineBits Alliance” is a group of SME operating in the touristic sector working together to innovate and open the data exchange in the alpine tourism, and therefore to optimize the online presence, sales and marketing efforts of the hotels and other accommodations in the alpine territory and also worldwide.

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Document Change Log

Important note: make sure to have the latest version of this document! The latest version is available from http://www.alpinebits.org.

protocol version	doc. release date	description
2014-04	2014-12-23	Status: ● official release with minor errata fixed ● section 4.2.3.: the example was not correct about the fact that the presence of a SelectionCriteria Start requires the server to send the list of inquiries again, regardless whether the client has retrieved them before or not (example fixed and misleading sentence removed) ● section 4.1.1: the document did not mention that it is allowed to send a single empty AvailStatusMessage element in a CompleteSet request to reset the room availabilities in a given Hotel - the empty AvailStatusMessage is required for OTA compatibility (this special case is now explicitly mentioned) ● section 4.12: in the table at the end of the secion the code for “Invalid hotel” was wrongly given as 61 instead of 361 (typo fixed) ● section 4.5.2: the document did not mention that it is allowed to send a single empty RatePlan element in a CompleteSet request to reset the rate plans in a given Hotel - the empty RatePlan is required for OTA compatibility (this special case is now explicitly mentioned)
2014-04	2014-10-15	Status: ● official release Updates and additions: ● this is a major overhaul of AlpineBits - see section B.1. for a list of breaking changes, updates and additions ● New section: **Inventory** - room category information ● New section: **RatePlans**
2013-04	2013-05-24	Status: ● official release Updates: ● Section 2 (HTTPS layer): added information regarding the new **X-AlpineBits-ClientID** and **X-AlpineBits-ClientProtocolVersion** fields in the HTTP header ● Section 3.2 (capabilities): added capability for FreeRoom **deltas** ● Section 4 (Intro): changed the text a bit to make it clearer that AlpineBits **does** indeed support booking requests and not only requests for quotes ● Section 4.1 (FreeRooms): added the possibility to send partial information (**deltas**); added **warning** response; much improved description of the response in general ● Section 4.2 (GuestRequests): slightly improved the description of the response in case of error ● Section 4.3 (Simple Packages): added **limitation** (just one Hotel per request); added **warning** response; much improved description of the response in general; clarified text to explicitly state that it is not allowed to mix package add and delete requests in a single message ● Appendix A (example code): this document should be language neutral so the code that used to be here has been removed with a message to check the official AlpineBits site (with the current release the code is still in the documentation kit,

		however) ● Appendix B (compatibility matrix): new appendix
2012-05b	2012-10-01	Status: ● official release Updates: ● OTA compatibility: the attribute **`Thu`** is renamed to **`Thur`** and the attribute **`Wed`** is renamed to **`Weds`** ● **SimplePackages:** the element **`Image`** is listed as **mandatory** in the table as it already was in the text and schema files ● **SimplePackages:** The element **`RateDescription`** is listed as non-repeatable in the table as it already was in the text and schema files
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
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 (FreeRooms),
- reservation inquiries (GuestRequests),
- package availability (SimplePackages),
- room category information (Inventory) and
- prices (RatePlans).

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.

The POST request **must** transmit the access credentials using **basic access authentication**.

The HTTPS header of the POST request **must** contain an X-AlpineBits-ClientProtocolVersion field. The value of this field is the protocol version supported by the client (see the first column of the changelog table). A server that does not receive the field will simply conclude the client speaks a protocol version preceding the version when this field was introduced (2013-04).

The HTTPS header of the POST request **may** contain an X-AlpineBits-ClientID field. The value of this field is an arbitrary string a server implementer **might** want to use to identify the client software version or installation ID.

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

The POST request **may** be compressed using the gzip algorithm, in which case the HTTP request header *Content-Encoding* **must** be present and have "gzip" as value. A POST request compressed with gzip **must** be compressed by the client in its entirety (i.e. the whole message must be compressed, not the single parts of the multipart/form-data content). It is a client responsibility to check whether the server supports content compression, this is done by checking the value of the **HTTP response header** *X-AlpineBits-Server-Accept-Encoding* which is set to "gzip" by servers who support this feature. The so called "Housekeeping" actions **must not** be compressed.

The 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: */*
X-AlpineBits-ClientProtocolVersion: 2014-04
X-AlpineBits-ClientID: sample-client.php v. 2014-04 1.0
Content-Length: 1989
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 field, with the username/password string (`chris:secret`) encoded in base64 (`Y2hyaXM6c2VjcmV0`) as defined by the basic access authentication standard [1].

Also note the X-AlpineBits-ClientProtocolVersion and X-AlpineBits-ClientID fields and 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 or a value of X-AlpineBits-ClientID that is not acceptable to the server) 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. Regarding the X-AlpineBits-ClientID, a server chooses to require the ID or to ignore the ID. If the server chooses to ignore the ID, it **must** do so silently, i.e. it **must** not return a 401 status because of the presence of the ID.

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

A server that has **not** announced support for requests compressed with gzip **may** return the status code 501 (not implemented) in case it receives such requests.

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.

2.1. Implementation tips and best practice

- For maximum compatibility across different implementations AlpineBits implementers are asked to handle POST requests using a supporting API in their language of choice. See appendix A for examples.

- All POSTs to an AlpineBits server are sent to a single URL. However, a server implementer might make more than one URL available for independent servers, such as servers with support for different versions:
    - https://server.example.com/alpinebits/2011-11
    - https://server.example.com/alpinebits/2012-05b
    - etc…

- Gzip compression can make request smaller by a factor of ten, therefore it was introduced in AlpineBits even though its usage in the POST requests is rare (far more than in the responses). According to the various RFCs compressing the requests is not forbidden, but there are no implementation recommendations; it was therefore chosen to use the approach the major web servers were already supporting at the time of this writing.

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 (see the first column of the changelog table, 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. Please note that these requests **must** be sent in plain text i.e. not compressed using gzip, even when the server supports compressed requests.

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 (FreeRooms)
- `OTA_HotelAvailNotif_accept_rooms`
  for room availability notifications (FreeRooms), the server accepts booking limits for specific rooms

- `OTA_HotelAvailNotif_accept_categories`
  for room availability notifications (FreeRooms), the server accepts booking limits for categories of rooms

- `OTA_HotelAvailNotif_accept_deltas`
  for room availability notifications (FreeRooms), the server accepts partial information (deltas)

- `action_OTA_Read`
  the server implements handling quote requests, booking reservations and cancellations (GuestRequests)

- `action_OTA_HotelRatePlanNotif`
  the server implements handling package availability notifications (SimplePackages)

- `action_OTA_HotelInvNotif_Inventory`
  the server implements handling room category information (Inventory)

- `OTA_HotelInvNotif_Inventory_occupancy_children`
  for room category information (Inventory), specifies whether the server supports applying children rebates even for children below the standard occupation

- `action_OTA_HotelRatePlanNotif_RatePlans`
  the server implements handling prices (RatePlans)

- `OTA_HotelRatePlanNotif_accept_MinLOS`
  for prices (RatePlans), the server accepts MinLOS restrictions in booking rules

- `OTA_HotelRatePlanNotif_accept_MaxLOS`
  for prices (RatePlans), the server accepts MaxLOS restrictions in booking rules

- `OTA_HotelRatePlanNotif_accept_ArrivalDOW`
  for prices (RatePlans), the server accepts arrival DOW restrictions in booking rules

- `OTA_HotelRatePlanNotif_accept_DepartureDOW`
  for prices (RatePlans), the server accepts departure DOW restrictions in booking rules

- `OTA_HotelRatePlanNotif_accept_RatePlan_BookingRule`
  for prices (RatePlans), the server accepts “generic” booking rules

- `OTA_HotelRatePlanNotif_accept_RatePlan_RoomType_BookingRule`
  for prices (RatePlans), the server accepts “specific” booking rules for the given room types

- `OTA_HotelRatePlanNotif_accept_RatePlan_mixed_BookingRule`
  for prices (RatePlans), the server accepts “specific” and “generic” booking rules within the same rate plan

- `OTA_HotelRatePlanNotif_accept_overlay`
  for prices (RatePlans), the server accepts the rate plan notif type value `Overlay`

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.
- 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**	**since version**	**parameter** `action` (string)	**parameter** `request` (XML document)	**server response** (XML document)
FreeRooms	a client sends room availability notifications to a server	2011-11	`OTA_HotelAvailNotif:FreeRooms`	OTA_HotelAvailNotifRQ	OTA_HotelAvailNotifRS
GuestRequests	a client sends a request to receive requests for a quote or booking requests from the server	2012-05	`OTA_Read:GuestRequests`	OTA_ReadRQ	OTA_ResRetrieveRS
GuestRequests (ack's)	a client acknowledges the requests it has received	2014-04	`OTA_NotifReport:GuestRequests`	OTA_NotifReportRQ	OTA_NotifReportRS
SimplePackages	a client sends package availability notifications to a server	2012-05	`OTA_HotelRatePlanNotif:SimplePackages`	OTA_HotelRatePlanNotifRQ	OTA_HotelRatePlanNotifRS
Inventory	a client sends room category (inventory) information	2014-04	`OTA_HotelInvNotif:Inventory`	OTA_HotelInvNotifRQ	OTA_HotelInvNotifRS
RatePlans	a client sends information about rate plans with prices and booking rules	2014-04	`OTA_HotelRatePlanNotif:RatePlans`	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.

OTA2010A, 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, an AlpineBits XML Schema file and a set of Relax NG files are provided as integral part of the specification in the AlpineBits documentation kit.

The Relax NG file set is stricter than the XML schema file. First, there is a RelaxNG file for each request and response type, so the nodes can be validated in a more specific way. Second, RelaxNG is intrinsically more powerful in expressing constraints that express how elements and attributes depend on each other.

Both, the XML Schema file 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:FreeRooms` 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.

4.1.1 Client request

The parameter **request** must contains an OTA_HotelAvailNotifRQ document.

Clients and servers typically wish to exchange only delta information about room availabilities in order to keep the total amount of data to be processed in check.

However, for simplicity, let us first consider a request where the client transmits the complete availability information as might be the case for a first synchronisation.

Consider the outer part of the example 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">

    <UniqueID Type="16" ID="1" Instance="CompleteSet"/>

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

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

    </AvailStatusMessages>

</OTA_HotelAvailNotifRQ>
```

samples/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.

The **UniqueID** element with attribute **Instance** = `CompleteSet` indicates that this message contains the complete information. When receiving such a request, a server **must** remove all information about any availability it might have on record regarding the given hotel.

If the **UniqueID** element is missing, the message contains delta information. In that case the server updates only the information that is contained in the message without touching the other information that it has on record.

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"
                              InvTypeCode="double" InvCode="101S" />

</AvailStatusMessage>

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

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

</AvailStatusMessage>
```

samples/FreeRooms-OTA_HotelAvailNotifRQ.xml - inner part

The use of the **InvCode** attribute tells us we're dealing with a **specific** room (101S) that belongs to the room category given by the **InvTypeCode** (double).

Alternatively, using a **InvTypeCode** without a **InvCode** attribute would indicate that the availability refers to a category of rooms, not a specific room.

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

An AlpineBits server **must** be able to treat **at least** one case out of the two cases (specific rooms or categories). 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 an implementation-specific way.

AlpineBits **requires** the **`AvailStatusMessage`** element to have attributes **`BookingLimit`** and **`BookingLimitMessageType`**. It also requires exactly one **`StatusApplicationControl`** element with attributes **`Start`**, **`End`**, **`InvTypeCode`** and (optional **`InvCode`**) for each **`AvailStatusMessage`** element. It **must** return an error if any of these are missing. There is however one exception: to completely reset all room availability information for a given Hotel a client might send a `CompleteSet` request with just one empty **`AvailStatusMessage`** element without any attributes. The presence of the empty **`AvailStatusMessage`** element is required for OTA validation.

Please note that previous versions of AlpineBits allowed some booking restrictions to be used in FreeRooms (length of stay and day of arrival). This possibility has been removed with version 2014-04 as these restrictions are better handled by RatePlans.

AlpineBits **recommends** that Implementers that use delta requests **should** send the full set of information periodically.

A server that supports delta requests **must** indicate so via the `OTA_HotelAvailNotif_accept_deltas` capability. As always, it is the **client's responsibility** to check whether the server supports deltas before trying to send them.

4.1.2. Server response

The server will send a response indicating the outcome of the request. The response is a OTA_HotelAvailNotifRS document. Four types of outcome are possible: success, advisory, warning or error.

Success

The request was accepted and processed successfully. The client does **not** need to take any further action.

In this case, the OTA_HotelAvailNotifRS response contains nothing but a **single**, empty **`Success`** element:

```
<?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>
```

samples/FreeRooms-OTA_HotelAvailNotifRS-success.xml

Advisory

The request was accepted and processed successfully. However, one or more non-fatal problems were detected and added to the server response. The client does **not** need to resend the request, but **must** notify the user or the client implementer regarding the advisory received.

In this case, the OTA_HotelAvailNotifRS response contains an empty **`Success`** element followed by **one or more** **`Warning`** elements with the attribute **`Type`** set to the fixed value `11`, meaning “Advisory” according to the OTA list “Error Warning Type” (EWT).

Each **`Warning`** element should contain a human readable text as in the following example:

```
<?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/>
        <Warnings>
            <Warning Type="11">
                last full data set received more than 48 hours ago
             </Warning>
        </Warnings>

</OTA_HotelAvailNotifRS>
```

samples/FreeRooms-OTA_HotelAvailNotifRS-advisory.xml

Warning

The request **could not** be accepted or processed successfully.

The client **must** take action: it **may** try to resend the message if it has reason to assume the warning is transient and occurred for the first time, otherwise it **must** escalate the problem to the user or client implementer.

In this case, the OTA_HotelAvailNotifRS response contains an empty **`Success`** element followed by **one or more** **`Warning`** elements with the attribute **`Type`** set to any value allowed by the OTA list “Error Warning Type” (EWT) **other than** `11` (“Advisory”).

Each **`Warning`** element should contain a human readable text as in the following example:

```
<?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/>
        <Warnings>
            <Warning Type="3">
                dates are too far in the future for this server to process
            </Warning>
        </Warnings>

</OTA_HotelAvailNotifRS>
```

samples/FreeRooms-OTA_HotelAvailNotifRS-warning.xml

Error

The request **could not** be accepted or processed successfully.

The client **must** take action: it **may** try to resend the message if it has reason to assume the error is transient and occurred for the first time, otherwise it **must** escalate the problem to the user or client implementer.

In this case, the OTA_HotelAvailNotifRS response contains **one or more** `Error` elements with the attribute `Type` set to the fixed value `13`, meaning “Application error” according to the OTA list “Error Warning Type” (EWT) and the attribute `Code` set to any value present in the OTA list “Error Codes” (ERR).

```
<?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="13" Code="404">
            Invalid start/end date combination
        </Error>
    </Errors>

</OTA_HotelAvailNotifRS>
```

samples/FreeRooms-OTA_HotelAvailNotifRS-error.xml

To aid implementers pick somewhat consistent error codes, here is a non-exhaustive list of codes that might be typically encountered when processing FreeRooms requests, taken from the OTA list “Error Codes” (ERR):

Code	Text
361	Invalid hotel
392	Invalid hotel code

396	Invalid name
375	Hotel not active
135	End date is invalid
136	Start date is invalid
404	Invalid start/end date combination
131	Room/unit type invalid
69	Minimum stay criteria not fulfilled
70	Maximum stay criteria not fulfilled
362	Invalid number of nights

4.1.3. 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.
- Note that sending partial information (deltas) was added with AlpineBits 2013-04.
- For non-delta requests, 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.
- The OTA lists “Error Warning Type” (EWT) and “Error Codes” (ERR) come with the OTA2010A documentation package. The package can be downloaded from the OTA web site [3]. The file `OpenTravel_CodeList_20100322.xls` contains all the lists.

4.2. GuestRequests: quote requests, booking reservations and cancellations

The typical use case for GuestRequests is a portal that collects quote **requests**, booking **reservations** or booking **cancellations** from potential customers and stores them until a client (typically the software used by a hotel) retrieves them.

In this case, the client sends a **first** request to obtain the information from the server about any requests, reservation or cancellations with the parameter `action` set to the value `OTA_Read:GuestRequests`.

The server then responds with the requested information.

Successively the client sends a **follow-up** request to acknowledge having received the information, with the parameter `action` set to the value `OTA_NotifReport:GuestRequests`.

4.2.1. First client request

The parameter `action` is set to the value `OTA_Read:GuestRequests`. and 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 4.1.1).

The element `SelectionCriteria` with the `Start` attribute is **optional**.

When given, the server will send only inquiries generated after the `Start` timestamp, regardless whether the client has retrieved them before or not.

When omitted, the server will send all inquiries it has on record and that the client has not yet retrieved.

```
<?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>
```

samples/GuestRequests-OTA_ReadRQ.xml

4.2.2 Server response

The server response is a OTA_ResRetrieveRS document indicating the outcome of the request. Two types of outcome are possible: error or success.

Error

If the request **could not** be accepted or processed successfully the OTA_ResRetrieveRS response contains one or more **`Error`** elements each with **`Type`** and **`Code`** attributes containing a human readable text. The rules for creating error messages are identical to the FreemRooms error case (please see section 4.1.2).

```
<?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">

    <Errors>
        <Error Type="13" Code="392">
            Invalid hotel code
        </Error>
    </Errors>

</OTA_ResRetrieveRS>
```

samples/GuestRequests-OTA_ResRetrieveRS-error.xml

Success

In case of success, the OTA_ResRetrieveRS response will contain a **single**, empty **`Success`** element followed by a **`ReservationsList`** element with **zero or more** **`HotelReservation`** elements containing the requested information (zero elements indicate the server has no information for the client at this point).

Each **`HotelReservation`** **must** have the attributes **`CreateDateTime`** (the timestamp the information was collected by the portal). Furthermore the **`ResStatus`** attribute **must** be set. AlpineBits expects it to be one of the following three:

- `Requested` - this is an **request** for a quote
- `Reserved` - this is a booking **reservation**
- `Cancelled` - this is a booking **cancellation**

The following example is a **reservation** (thus, **`ResStatus`** is `Reserved`). The documentation kit also has an example of a quote **request**. A **cancellation** is discussed later.

First, consider the outer part of the 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="Reserved">

             <!-- 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>
```

samples/GuestRequests-OTA_ResRetrieveRS-reservation.xml - outer part

Each `HotelReservation` contains a **mandatory** `UniqueID` element that the client can use to recognize information it has already processed.

The `UniqueID` element **must** have the `Type` attribute set according the OTA Unique Id Type list (UIT). The value must be consistent with the `ResStatus` attribute of the surrounding `HotelReservation` element:

- For `ResStatus` = `Requested`, the `Type` must be 14 (Reservation)
- For `ResStatus` = `Reserved`, the `Type` must be 14 (Reservation)
- For `ResStatus` = `Cancelled`, the `Type` must be 15 (Cancellation)

The attribute `ID` is a free text field suitable for 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 RatePlanCode="123456-xyz">
                <!-- Code 1 -> All inclusive -->
                <MealsIncluded MealPlanIndicator="true" MealPlanCodes="1"/>
            </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 Start="2012-01-01" End="2012-01-12"/>


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

    </RoomStay>

</RoomStays>
```

samples/GuestRequests-OTA_ResRetrieveRS-reservation.xml - `RoomStay` element

Each `RoomStay` element contains:

- **one** `RoomType` element (**mandatory** for **reservations**, **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 `InvTypeCode` attribute used for room categories (see section 4.1.1)
- **one** `RatePlan` element with a `RatePlanCode` attribute (**optional**) and **one** `MealsIncluded` element (**mandatory** for **reservations**, **optional** for quote **requests**): the **MealsIncluded** element must contain the **MealPlanCodes** attribute (values see below) and must have the **MealPlanIndicator** attribute set to true.
- **one** `GuestCounts` 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 **reservations**, **optional** for quote **requests**) containing the cost after taxes the portal has displayed to the customer, both attributes `AmountAfterTax` and `CurrencyCode` are required.

Regarding the **MealPlanCodes** attribute, AlpineBits **does not** use the single Breakfast/Lunch/Dinner booleans, but relies on the **MealPlanCodes** attribute only. The following codes (a subset of the full OTA list) are allowed:

- 1 - all inclusive
- 3 - bed and breakfast
- 10 - full board

- 12 - half board
- 14 - room only

The **TimeSpan** element deserves a more detailed explanation.

For **reservations** (**ResStatus** is `Reserved`), the arrival and departure date **must** be given with the **Start** and **End** attributes of the **TimeSpan** element. **No** other attributes and **no** subelements **must** be present in **TimeSpan**.

For quote **requests** (**ResStatus** is `Requested`) the timespan can be given in the same way (i.e. using the **Start** and **End** attributes) or it **may** be given as a window. In this case the **TimeSpan** element must have the **Duration** attribute (encoded in ISO 8601) and the **StartDateWindow** sub element with attributes **EarliestDate** and **LatestDate** which **must** be greater than **EarliestDate** indicating a range of possible start dates.

Duration are 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** (**ResStatus** is `Requested`), 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>
```

samples/GuestRequests-OTA_ResRetrieveRS-reservation.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 **reservations**, **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).

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 - for new customers this should be treated the same way as if a `newsletter:no` was given (do not send a newsletter), while existing customer records should not be updated.

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 - for new customers this should be treated the same way as if a `catalog:no` was given (do not send a mail), while existing customer records should not be updated.

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>
```

samples/GuestRequests-OTA_ResRetrieveRS-reservation.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 reservations, 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 to 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`.

Besides quote requests and booking reservations, also **cancellations** can be handled. For cancellations the `ResStatus` is `Cancelled` as shown in the following example:

```xml
<?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="Cancelled">

             <!-- Type 15 -> Cancellation -->
            <UniqueID Type="15" ID="c24e8b15ca469388"/>

       </HotelReservation>

    </ReservationsList>

</OTA_ResRetrieveRS>
```

samples/GuestRequests-OTA_ResRetrieveRS-cancellation.xml

Each **HotelReservation** **must** of course have the attributes **CreateDateTime** and **ResStatus** set to `Cancelled`.

The only other element is the **mandatory** **UniqueID**, again with **mandatory** attribute **Type** 15 and attribute **ID** referring to the reservation that is being cancelled!

4.2.3. Follow-up client request (acknowledgement)

A client, upon receiving a non-empty response to its first request (`OTA_Read:GuestRequests`), should initiate another request, acknowledging the **UniqueID** values it got (referring to quotes, reservations or cancellations).

For this follow-up request the parameter **action** is set to the value `OTA_NotifReport:GuestRequests` and the parameter **request** must contains a OTA_NotifReportRQ document.

Here is an example where a client acknowledges the reception of information from a previous request. The client uses again the **HotelReservation** element, one for each ID it wishes to acknowledge.

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

<OTA_NotifReportRQ 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_NotifReportRQ"
```

```
        Version="1.000">

    <Success/>

    <NotifDetails>
        <HotelNotifReport>
            <HotelReservations>

                <HotelReservation>
                    <!-- ACK reservation with ID="6b34fe24ac2ff810" -->
                    <UniqueID Type="14" ID="6b34fe24ac2ff810"/>
                </HotelReservation>

                <HotelReservation>
                    <!-- ACK cancellation with ID="c24e8b15ca469388" -->
                    <UniqueID Type="15" ID="c24e8b15ca469388"/>
                </HotelReservation>

                <HotelReservation>
                    <!-- ACK quote request with ID="1000000000000001" -->
                    <UniqueID Type="14" ID="1000000000000001"/>
                </HotelReservation>

            </HotelReservations>
        </HotelNotifReport>
    </NotifDetails>

</OTA_NotifReportRQ>
```

samples/GuestRequests-OTA_ReadRQ-ack.xml

The following rules apply to acknowledgements:

- For every `UniqueID`, the server **must** remember whether or not the client has acknowledged it yet.
- It is a client's responsibility to send the acknowledgments - if it doesn't, it must be prepared to deal with duplicates the next time it queries the server.

Here is a sample sequence of messages exchanged between a client and a server

time	client request	server response	comment
08:00	action = OTA_Read:GuestRequests; request = OTA_Read with SelectionCriteria Start today 00:00	OTA_ResRetrieveRS with UniqueID=1 (Reservation) and UniqueID=2 (Request)	the server answers with todays two requests (1 and 2)
08:01	action = OTA_NotifReport:GuestRequests; request = OTA_NotifReportRQ with UniqueID=1	OTA_NotifReportRS Success	server knows the client got 1, it will not be send again
09:00	action = OTA_Read:GuestRequests; request = OTA_Read	OTA_ResRetrieveRS with UniqueIDs 2 and 3 (Request)	the client wishes to read today's requests again, 1 is not send (since it was

			ack'd), 2 is send again and 3 is send because it's new
10:00	action = OTA_Read:GuestRequests; request = OTA_Read	OTA_ResRetrieveRS with UniqueIDs 2 and 3 (Request)	same server response as at 09:00 because 2 and 3 were not ack'd
10:01	action = OTA_NotifReport:GuestRequests; request = OTA_NotifReportRQ with UniqueID=2, 3	OTA_NotifReportRS Success	server now knows the client got all three
11:00	action = OTA_Read:GuestRequests; request = OTA_Read with SelectionCriteria Start today 00:00	OTA_ResRetrieveRS with UniqueIDs 1, 2 and 3 (Request)	the SelectionCriteria Start overrides the fact that all three guest requests had already been ack'ed, so the server sends all three again

4.2.4. Follow-up server response

The server will respond with a OTA_NotifReportRS document with an empty **Success** element.

4.2.5. 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.

4.3.1. 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>
```

samples/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 present; 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 4.1.1)

While it is possible to send more than one `RatePlan` element, AlpineBits requires that all `RatePlan` elements refer to the same Hotel. Hence at most **one** hotel can be dealt with in a single request. An AlpineBits server **must** return an error if it receives a request referring to more than one Hotel.

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>
```

samples/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**, the optional **Sat** attribute indicates a DOW (day of week) limitation, indicating the rate is available only for arrival days on a Saturday. 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>
```

samples/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 image location (HTTP URL). 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 implementers 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**.

4.3.2. 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>
```

samples/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.

All given **RatePlan** elements must refers to the same hotel: at most **one** hotel can be dealt with in a single request. An AlpineBits server **must** return an error if it receives a request referring to more than one Hotel.

Please note that it is **not** allowed to mix notifications that packages are available with notifications that packages are no longer available in the same request.

4.3.3. Server response

The server will send a response indicating the outcome of the request. The response is a OTA_HotelRatePlanNotifRS document. Four types of outcome are possible: success, advisory, warning or error.

Success

The request was accepted and processed successfully. The client does **not** need to take any further action.

In this case the OTA_HotelRatePlanNotifRS response contains nothing but a **single**, empty **Success** element:

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

<OTA_HotelRatePlanNotifRS
    xmlns="http://www.opentravel.org/OTA/2003/05"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:schemaLocation="http://www.opentravel.org/OTA/2003/05 OTA_HotelRatePlanNotifRS.xsd"
    Version="3.14">

    <Success/>

</OTA_HotelRatePlanNotifRS>
```

samples/SimplePackages-OTA_HotelRatePlanNotifRS-success.xml

Advisory

The request was accepted and processed successfully. However, one or more non-fatal problems were detected and added to the server response. The client does **not** need to resend the request, but **must** notify the user or the client implementer regarding the advisory received.

In this case, the OTA_HotelRatePlanNotifRS response contains an empty **Success** element followed by **one or more** **Warning** elements with the attribute **Type** set to the fixed value `11`, meaning "Advisory" according to the OTA list "Error Warning Type" (EWT).

If a **Warning** element is not regarding the request as a whole but specific to a **RatePlan** element in the request, the **Warning** **must** also have a **RecordID** attribute.

The value of **RecordID** must be the value of the **RatePlan**/**UniqueID**/**ID** the **Warning** is referred to.

Each **Warning** element should contain a human readable text as in the following example:

```
<OTA_HotelRatePlanNotifRS
    xmlns="http://www.opentravel.org/OTA/2003/05"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:schemaLocation="http://www.opentravel.org/OTA/2003/05 OTA_HotelRatePlanNotifRS.xsd"
    Version="3.14">

    <Success/>
    <Warnings>
        <Warning Type="11" RecordID="3f6fce1f0da2ef57">
            end date is less than 3 days from now
        </Warning>
    </Warnings>

</OTA_HotelRatePlanNotifRS>
```

samples/SimplePackages-OTA_HotelRatePlanNotifRS-advisory.xml

Warning

The request **could not** be accepted or processed successfully.

The client **must** take action: it **may** try to resend the message if it has reason to assume the warning is transient and occurred for the first time, otherwise it **must** escalate the problem to the user or client implementer.

In this case, the OTA_HotelRatePlanNotifRS response contains an empty **`Success`** element followed by **one or more** **`Warning`** elements with the attribute **`Type`** set to any value allowed by the OTA list "Error Warning Type" (EWT) **other than** `11` ("Advisory").

If a **`Warning`** element is not regarding the request as a whole but specific to a **`RatePlan`** element in the request, the **`Warning`** **must** also have a **`RecordID`** attribute.

The value of **`RecordID`** must be the value of the **`RatePlan`**/**`UniqueID`**/**`ID`** the **`Warning`** is referred to.

Each **`Warning`** element should contain a human readable text as in the following example:

```
<OTA_HotelRatePlanNotifRS
    xmlns="http://www.opentravel.org/OTA/2003/05"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:schemaLocation="http://www.opentravel.org/OTA/2003/05 OTA_HotelRatePlanNotifRS.xsd"
    Version="3.14">

    <Success/>
    <Warnings>
        <Warning Type="3" RecordID="3f6fce1f0da2ef57">
            dates are too far in the future for this server to process
        </Warning>
    </Warnings>

</OTA_HotelRatePlanNotifRS>
```

samples/SimplePackages-OTA_HotelRatePlanNotifRS-warning.xml

Error

The request **could not** be accepted or processed successfully.

The client **must** take action: it **may** try to resend the message if it has reason to assume the error is transient and occurred for the first time, otherwise it **must** escalate the problem to the user or client implementer.

In this case, the OTA_HotelAvailNotifRS response contains **one or more** **`Error`** elements with the attribute **`Type`** set to the fixed value `13`, meaning "Application error" according to the OTA list "Error Warning Type" (EWT) and the attribute **`Code`** set to any value present in the OTA list "Error Codes" (ERR).

```
<OTA_HotelRatePlanNotifRS
    xmlns="http://www.opentravel.org/OTA/2003/05"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
```

```
    xsi:schemaLocation="http://www.opentravel.org/OTA/2003/05 OTA_HotelRatePlanNotifRS.xsd"
    Version="3.14">

    <Errors>
        <Error Type="13" Code="404">
            Invalid start/end date combination
        </Error>
    </Errors>

</OTA_HotelRatePlanNotifRS>
```

samples/SimplePackages-OTA_HotelRatePlanNotifRS-error.xml

4.3.4. 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 OTA lists “Error Warning Type” (EWT) and “Error Codes” (ERR) come with the OTA2010A documentation package. The package can be downloaded from the OTA web site [3]. The file `OpenTravel_CodeList_20100322.xls` contains all the lists.

4.4. Inventory: room category information

When the value of the **action** parameter is `OTA_HotelInvNotif:Inventory` the client informs the server about the available room categories and optionally rooms.

4.4.1. Client request

The parameter **request** contains an OTA_HotelInvNotifRQ document.

Each document contains **one SellableProducts** element. For the **mandatory** attributes **HotelCode** and **HotelName** the rules are the same as for room availability notifications (section 4.1.1). Note that information about only one hotel per message can be transmitted.

Nested inside the **SellableProducts** element, two kinds of **SellableProduct** elements can be used:

- to define and describe room categories (identified by **InvTypeCode**) - e.g. RatePlans will link to these
- to optionally list and describe specific rooms for each category (identified by **InvCode**).

Here is the global structure of such a document:

```
<?xml version="1.0" encoding="UTF-8"?>
<OTA_HotelInvNotifRQ 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_HotelInvNotifRQ"
        Version="1.000">

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

        <!-- room category: double -->
        <SellableProduct InvTypeCode="double">
        <!-- ... -->
        </SellableProduct>

        <!-- specific rooms in "double" -->
        <SellableProduct InvTypeCode="double" InvCode="101">
        <!-- ... -->
        </SellableProduct>
        <SellableProduct InvTypeCode="double" InvCode="102a">
        <!-- ... -->
        </SellableProduct>

        <!-- room category: single -->
        <SellableProduct InvTypeCode="single">
        <!-- ... -->
        </SellableProduct>

        <!-- specific rooms in "single" -->
        <SellableProduct InvTypeCode="single" InvCode="castle1">
        <!-- ... -->
        </SellableProduct>
        <SellableProduct InvTypeCode="single" InvCode="castle2">
        <!-- ... -->
```

```
        </SellableProduct>

    </SellableProducts>

</OTA_HotelInvNotifRQ>
```

samples/Inventory-OTA_HotelInvNotifRQ.xml - outer part

Each **SellableProduct**, when used to describe a room category **must** have an **InvTypeCode** attribute (that identifies the category), **must not** have a **InvCode** attribute and contains:

- a minimum, standard and maximum occupancy
- info about whether a crib can be added on demand
- a description (purposely only a simple text - richer descriptions might be added in a future version of AlpineBits)

Here is an example:

```
<!-- room category: double -->
<SellableProduct InvTypeCode="double">
    <GuestRoom>

        <!-- Mandatory Element.  -->
        <Quantities MaximumAdditionalGuests="2" />

        <!-- Room Occupancy. Mandatory Element. Defines the
             standard occupancy (MaxOccupancy - MaximumAdditionalGuests from above). -->
        <Occupancy  MinOccupancy="2"
                    MaxOccupancy="4" />

        <!-- Specially crafted occupancy for children. Optional element.
             MaxOccupancy must be > MaximumAdditionalGuests and means that
             children can occupy "standard" beds (up to MaxOccupancy -
             MaximumAdditionalGuests) and pay the children price instead of
             the BaseByGuestAmts price (see rate calculation in the next chapter). -->
        <Occupancy  AgeQualifyingCode="8"
                    MaxOccupancy="3" />

        <Room RoomClassificationCode="42" />
        <Amenities>
            <!-- 26 == "Cribs" -->
            <Amenity AmenityCode="26"/>
        </Amenities>

        <Description>
            <!-- ... -->
        </Description>

    </GuestRoom>
</SellableProduct>
```

samples/Inventory-OTA_HotelInvNotifRQ.xml - a SellableProduct used to define and describe a room category

The minimum and maximum occupancy is given by the **MinOccupancy** and **MaxOccupancy** attributes of the **Occupancy** element. The standard occupancy is given by subtracting the value of the **MaximumAdditionalGuests** attribute in the **Quantities** element from **MaxOccupancy**. All three attributes are **mandatory**.

Optionally, if the server support the `OTA_HotelInvNotif_Inventory_occupancy_children` capability, a second **Occupancy** element may be present with **AgeQualifyingCode** 8 and attribute **MaxOccupancy** (which must be > **MaximumAdditionalGuests**) meaning that children can occupy "standard" beds and pay the children price (see rate calculation in the next chapter).

The mandatory **RoomClassificationCode** attribute of the **Room** element follows the OTA list "Guest Room Info" (GRI) and is used to classify the kind of guest room (42 means just "Room", 13 means "Apartments", etc...).
Info about whether a crib can be added on demand is given by the **optional** **Amenity** element with **AmenityCode** value of `26` ("Cribs").

Finally, there is one mandatory **Description** element:

```
<Description>

    <Text TextFormat="PlainText" Language="en">lorem ipsum</Text>
    <Text TextFormat="PlainText" Language="it">lorem ipsum</Text>

    <!-- more languages ... -->

</Description>
```

samples/Inventory-OTA_HotelInvNotifRQ.xml - a Description

It contains **one or more** **Text** elements with **mandatory** attributes **TextFormat** (must be `PlainText`) and **Language**. The **Language** attribute **must** follow ISO 639-1 (two-letter lowercase language abbreviation). There can be at most one Text for any given value of the **Language** attribute.

Each **SellableProduct**, when used to to **optionally** list and describe specific rooms for a category **must** have an **InvTypeCode** attribute (that refers to the room category), **must** have a **InvCode** attribute (identifying the specific room) and **may** contain an **optional** **Description** element following the same rules as in the category case.

A client that wants to use Inventory in conjunction with FreeRooms (the **InvCode** case - see section 4.1.1) **must**, of course, send the full list of specific rooms.

Here is an example:

```
<SellableProduct InvTypeCode="double" InvCode="101">
    <GuestRoom>
        <Description>
            <Text TextFormat="PlainText" Language="en">lorem ipsum</Text>
        </Description>
    </GuestRoom>
</SellableProduct>

<SellableProduct InvTypeCode="double" InvCode="102">
    <GuestRoom></GuestRoom>
```

```
</SellableProduct>

<SellableProduct InvTypeCode="double" InvCode="103a">
    <GuestRoom></GuestRoom>
</SellableProduct>

<SellableProduct InvTypeCode="double" InvCode="103b">
    <GuestRoom></GuestRoom>
</SellableProduct>
```

samples/Inventory-OTA_HotelInvNotifRQ.xml - a SellableProduct used to to list and describe specific rooms

Please note that categories in inventories should refer to physical inventories. They **must not** be used as logical inventories. For example it is **not** allowed to introduce an inventory with code `suite-x` and one with code `suite-x-special-offer` for the purpose of modeling two different products from the same inventory (RatePlans will take care of that).

Note that AlpineBits does not support deltas for Inventory. After successfully processing a Inventory request a server should consider deleted all previous inventory data, this includes all FreeRooms and RatePlans that refer to any now missing inventory data.

4.4.2. Server response

The server will send a response indicating the outcome of the request. The response is a OTA_HotelRatePlanNotifRS document. Four types of outcome are possible: success, advisory, warning or error.

Success

The request was accepted and processed successfully. The client does **not** need to take any further action.

In this case the OTA_HotelRatePlanNotifRS response contains nothing but a **single**, empty **Success** element:

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

<OTA_HotelInvNotifRS 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_HotelInvNotifRS"
    Version="1.000">

    <Success/>

</OTA_HotelInvNotifRS>
```

samples/Inventory-OTA_HotelInvNotifRS-success.xml

Advisory

The request was accepted and processed successfully. However, one or more non-fatal problems were detected and added to the server response. The client does **not** need to resend the request, but **must** notify the user or the client implementer regarding the advisory received.

In this case, the OTA_HotelRatePlanNotifRS response contains an empty **Success** element followed by **one or more** **Warning** elements with the attribute **Type** set to the fixed value `11`, meaning "Advisory" according to the OTA list "Error Warning Type" (EWT).

Each **Warning** element should contain a human readable text as in the following example:

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

<OTA_HotelInvNotifRS 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_HotelInvNotifRS"
    Version="1.000">

    <Success/>
    <Warnings>
        <Warning Type="11">
            description text contains lorem ipsum
        </Warning>
    </Warnings>

</OTA_HotelInvNotifRS>
```

samples/Inventory-OTA_HotelInvNotifRS-advisory.xml

Warning

The request **could not** be accepted or processed successfully.

The client **must** take action: it **may** try to resend the message if it has reason to assume the warning is transient and occurred for the first time, otherwise it **must** escalate the problem to the user or client implementer.

In this case, the OTA_HotelRatePlanNotifRS response contains an empty **Success** element followed by **one or more** **Warning** elements with the attribute **Type** set to any value allowed by the OTA list "Error Warning Type" (EWT) **other than** `11` ("Advisory").

Each **Warning** element should contain a human readable text as in the following example:

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

<OTA_HotelInvNotifRS 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_HotelInvNotifRS"
    Version="1.000">


    <Success/>
    <Warnings>
```

```
        <Warning Type="3">
            too many products
        </Warning>
    </Warnings>

</OTA_HotelInvNotifRS>
```

samples/Inventory-OTA_HotelInvNotifRS-warning.xml

Error

The request **could not** be accepted or processed successfully.

The client **must** take action: it **may** try to resend the message if it has reason to assume the error is transient and occurred for the first time, otherwise it **must** escalate the problem to the user or client implementer.

In this case, the OTA_HotelRatePlanNotifRS response contains **one or more** `Error` elements with the attribute `Type` set to the fixed value `13`, meaning “Application error” according to the OTA list “Error Warning Type” (EWT) and the attribute `Code` set to any value present in the OTA list “Error Codes” (ERR).

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

<OTA_HotelInvNotifRS 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_HotelInvNotifRS"
    Version="1.000">


    <Errors>
        <Error Type="13" Code="404">
            inconsistent values for occupancy
        </Error>
    </Errors>

</OTA_HotelInvNotifRS>
```

samples/Inventory-OTA_HotelInvNotifRS-error.xml

4.4.3. Implementation tips and best practice

- None yet.

4.5. RatePlans

When the value of the **action** parameter is `OTA_HotelRatePlanNotif:RatePlans` the client sends information about rates and related rules.

4.5.1. Client request

The parameter **request** contains an OTA_HotelRatePlanNotifRQ document.

Each document contains **one RatePlans** element. For the **mandatory** attributes **HotelCode** and **HotelName** the rules are the same as for room availability notifications (section 4.1.1). Note that information about only one hotel per message can be transmitted.

Nested inside **RatePlans** are **RatePlan** elements, one for each rate plan. The **RatePlan** element has the following **mandatory** attributes (but see the next section for exceptions):

- ➔ **RatePlanNotifType** is either `New`, `Overlay` or `Remove` (see section “Synchronization” below)
- ➔ **CurrencyCode** is `EUR`,
- ➔ **RatePlanCode** is the rate plan ID.

We also support the optional **RatePlan** attributes **RatePlanType** and **RatePlanCategory**. An offer or package presented by the hotel will set **RatePlanType** to `12` (means “Promotional”). An offer or package campaigned by a third party (such as a consortium or a tourist organisation) in which the hotel participates will set **RatePlanType** to `12` and also the **RatePlanCategory** attribute with a value defined by the third party.

Each **RatePlan** element contains, in order:

- zero or more **BookingRule** elements: used to restrict the applicability of the rate plan to a given stay - zero means no restrictions,
- zero or more **Rate** elements: indicate the cost of stay,
- zero or more **Supplement** elements: to specify supplements such as final cleaning fees or similar extras,
- zero, one or two **Offer** elements: indicates offers such as free nights or kids go free,
- zero, one or two **Description** elements with attribute **Name** set to `title` or `intro` or both (when two description elements are used).

Here is the global structure of the 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"
        Version="1.000">

    <RatePlans HotelCode="123" HotelName="Frangart Inn">
```

```
        <RatePlan RatePlanNotifType="Overlay" CurrencyCode="EUR" RatePlanCode="Rate1-4-HB">

            <BookingRules>
                <BookingRule Start="2014-04-15" End="2014-11-02">
                    ...
                </BookingRule>
            </BookingRules>

            <Rates>
                <Rate InvTypeCode="double" Start="2014-04-15" End="2014-05-20">
                    ...
                </Rate>
            </Rates>

            <Supplements>
                <Supplement> ... </Supplement>
            </Supplements>

            <Offers>
                <Offer> ... </Offer>
            </Offers>

            <Description Name="Short Description">
                <!-- ... -->
            </Description>

        </RatePlan>

    </RatePlans>

</OTA_HotelRatePlanNotifRQ>
```

samples/RatePlans-OTA_HotelRatePlanNotifRQ.xml - outer part

Both **BookingRule** and **Rate** elements can be linked to the room categories (**InvTypeCode** in the Inventory, see section 4.4):

- **Rate** elements **must** be linked to room categories via their **InvTypeCode** attribute,
- **BookingRule** elements **can** be linked to room categories via their **Code** attribute and by setting their **CodeContext** attribute to `ROOMTYPE` (OTA lacks a **InvTypeCode** attribute here),
- a **BookingRule** without these attributes applies to any room category that matches the rate plan.

BookingRule and **Rate** elements have attributes **Start** and **End**.

Concerning **Rates**, we consider that a stay matches the **Start** and **End** attributes if the the arrival day is ≥ **Start** and the departure day ≤ **End** + 1.

When the server computes the total cost of the stay it **must** find matching rates for each night of the stay. Otherwise it **cannot** compute the total cost, and the stay is not possible.

BookingRule elements define a number of restriction criteria:

- the minimum or maximum length of stay (LOS) using the **LengthOfStay** element,
- the arrival day of week (arrival DOW) using the **ArrivalDaysOfWeek** element,
- the departure day of week (departure DOW) using the **DepartureDaysOfWeek** element.

- a master restriction status (values `Open`/`Close`) using the **RestrictionStatus** element.

Any missing criteria is to be interpreted as unrestricted.

When matching a **BookingRule**, a server **must** consider the following rules:

- criteria of the booking rule (if any) that applies to the arrival day (**Start** ≤ arrival day ≤ **End**): min LOS, max LOS, arrival DOW, master status `Open`,

- criteria of the booking rule (if any) that applies to the departure day (**Start** ≤ departure day ≤ **End**): departure DOW,

- each day of the stay (excluding the departure day) **must not** be denied by a master status `Close` rule.

Within the same rate plan, two element **must not** overlap (concerning their **Start** and **End** attributes) if they belong to the same class. Classes are:

- **BookingRule** elements with no **Code** attribute,
- **BookingRule** elements with the same value for the **Code** attribute,
- **Rate** elements with the same **InvTypeCode** attribute.

The server **must** consider overlaps as an **error**.

Here is a complete example of a booking rule:

```
<BookingRule Start="2014-03-03" End="2014-04-17">
    <LengthsOfStay>
        <LengthOfStay Time="5" TimeUnit="Day" MinMaxMessageType="SetMinLOS"/>
        <LengthOfStay Time="0" TimeUnit="Day" MinMaxMessageType="SetMaxLOS"/>
    </LengthsOfStay>
    <DOW_Restrictions>
        <ArrivalDaysOfWeek   Mon="1" Tue="1" Weds="1" Thur="1" Fri="1" Sat="1" Sun="1"/>
        <DepartureDaysOfWeek Mon="1" Tue="1" Weds="1" Thur="1" Fri="1" Sat="1" Sun="1"/>
    </DOW_Restrictions>
    <RestrictionStatus Restriction="Master" Status="Open"/>
</BookingRule>
```

samples/RatePlans-OTA_HotelRatePlanNotifRQ.xml - example booking rule

A stay must be allowed by all applicable booking rules. In particular, there might be a **BookingRule** element **with** a Code attribute and a **BookingRule** element **without** a Code attribute where both are applicable to a given stay. In such a case, both rules must allow the stay.

Rate elements contain costs (all amounts are taken to be in EUR and after taxes). Two kinds of elements are used: **BaseByGuestAmt** and **AdditionalGuestAmount**. These are used according to the minimum (*min*) ≤ standard (*std*) ≤ maximum (*max*) occupancies as defined in Inventory (see section 4.4).

Concerning rates, AlpineBits dictates the following:

- *min* ≤ number of guests ≤ *max*,
- one **BaseByGuestAmt** element with attributes **NumberOfGuests** = *std* and **Type** **must** be present, the value of **Type** must be either 7 (“per person”) or 25 (“per room”) as specified in the OTA Charge Type (CHG) list; AlpineBits requires all rates in a rate plan to refer to the same **Type**
- additional **BaseByGuestAmt** elements with values between *min* and *std* - 1 **may** be present,
- if and only if *std* < *max*, **AdditionalGuestAmount** must also present: these amounts always refer to one person and have attribute **AgeQualifyingCode** (8 → child, 10 → adult) and age brackets (match if **MinAge** ≤ age < **MaxAge**),
- when computing the total cost:
    - When the number of guests ≤ std, the cost computation algorithm will pick the **BaseByGuestAmt** matching the number of guests (no match if the right **BaseByGuestAmt** is not present). If and only if the **Type** is 7 (“per person”) the **Amount** must be multiplied by the number of guests.
    - When the number of guests > *std*, the algorithm will pick the **BaseByGuestAmt** for *std* guests (considering **Type** as above) and **AdditionalGuestAmount** elements for the remaining guests.
- if the number of adults is < *std*, the algorithm uses children as adults (have them pay full price),
- it is possible that only **AdditionalGuestAmount** elements with the code **AgeQualifyingCode** `10` (adults) are present (i.e. there are no prices specified for children).

There is one exception, however.

The **Inventory** might specify a **MaxOccupancy** attribute with **AgeQualifyingCode** 8 (“children”). In that case the **MaxOccupancy** indicates the maximum amount of children that get a rebate, even in the "adults is < *std*" case. Of course, this exception applies only if children rebates are available at all, otherwise the algo will fall back to have the children pay as adult.

By default, all rates are per night. It is, however, possible to specify rates per an arbitrary amount of nights. This is done by adding the attributes **RateTimeUnit** (`Day` is the only allowed value) and **UnitMultiplier** (number of nights) to the **Rate** element.

AlpineBits **requires** all rates in a rate plan to refer to the **same board type**. Ideally one would define the board type at the level of the rate plan, but OTA doesn't support that. So all rates **must** contain a **MealsIncluded** element with the same value for the **MealPlanCodes** attribute.

AlpineBits **does not** use the single Breakfast/Lunch/Dinner booleans, but relies on the **MealPlanCodes** attribute only. The following codes (a subset of the full OTA list) are allowed:

- 1 - all inclusive
- 3 - bed and breakfast
- 10 - full board

- 12 - half board
- 14 - room only

The **MealsIncluded** element must have the **MealPlanIndicator** attribute set to true.

Here is a complete example of a rate:

```
<Rate InvTypeCode="double" Start="2014-03-03" End="2014-03-08">
    <BaseByGuestAmts>
        <BaseByGuestAmt Type="7" NumberOfGuests="1" AgeQualifyingCode="10"
                        AmountAfterTax="106"/>
        <BaseByGuestAmt Type="7" NumberOfGuests="2" AgeQualifyingCode="10"
                        AmountAfterTax="192"/>
    </BaseByGuestAmts>
    <AdditionalGuestAmounts>
        <AdditionalGuestAmount AgeQualifyingCode="10"
                               Amount="76.8"/>
        <AdditionalGuestAmount AgeQualifyingCode="8"              MaxAge="3"
                               Amount="0"   />
        <AdditionalGuestAmount AgeQualifyingCode="8"  MinAge="3"  MaxAge="6"
                               Amount="38.4"/>
        <AdditionalGuestAmount AgeQualifyingCode="8"  MinAge="6"  MaxAge="10"
                               Amount="48"  />
        <AdditionalGuestAmount AgeQualifyingCode="8"  MinAge="10" MaxAge="16"
                               Amount="67.2"/>
    </AdditionalGuestAmounts>
    <MealsIncluded MealPlanIndicator="true" MealPlanCodes="12"/>
</Rate>
```

samples/RatePlans-OTA_HotelRatePlanNotifRQ.xml - example rate

Supplements are supported through the **Supplement** element. AlpineBits **requires** the attribute **AddToBasicRateIndicator** to be set to `true` (to indicate the supplement amount must be added to the amount coming from the rate). The attribute **SupplementType** can only assume the values `Extra` or `Board`. AlpineBits **does not** allow the child elements **PrerequisiteInventory** or **RoomCompanions**.

The attribute **ChargeTypeCode** must be present, AlpineBits supports the following values:

- 1 - daily
- 12 - per stay
- 18 - per room per stay
- 19 - per room per night
- 20 - per person per stay
- 21 - per person per night
- 24 - item

When **ChargeTypeCode** is `24`, the total cost of stay **should** be computed by asking the user the number of items.

The **Amount** is the cost of the supplement. Amounts are taken to be in EUR and after taxes.

Supplements of type `Board` are used for supplements related to the board. In this case, attributes **InvCode** and **InvType** are **not** used and the attribute **MandatoryIndicator** **must** be `true`. Attributes **AgeQualifyingCode**, **MaxAge** and **MinAge** may be present to handle child supplement rates. Since this type of supplement is mandatory, it can be described at the rate plan level and description should **not** be present at the supplement level.

Supplements of type `Extra` are used for supplements such as final cleaning fees or services for pets. In this case, the attribute **MandatoryIndicator** can be `true` or `false` and **Description** elements are required (plain text only, one per language). The age-related attributes **must not** be present. The attributes **InvType** and **InvCode** **must** be set.

The **InvType** `EXTRA` means that **InvCode** can be set freely (of course satisfying OTA restrictions on attribute values).

The **InvType** `ALPINEBITSEXTRA` is not currently used but is reserved for a future shared list of common **InvCode** values.

Supplements are applicable only in the date range defined by the mandatory attributes **Start** and **End** (with the usual meaning).

Please note that a rate plan **must** *describe* any local taxes and fees in its description (as opposed to giving them as a supplement). The rationale behind this is that a portal does not have enough information to decide whether these local taxes and fees apply to a given booking request or not.

Here is a complete example of a supplement:

```
<Supplement AddToBasicRateIndicator="true" ChargeTypeCode="18"
            SupplementType="Extra" Amount="20" InvType="ALPINEBITSEXTRA" InvCode="0"
            Start="2014-10-01" End="2014-10-11"
            >
    <Description Language="de">
        <Text>Endreinigung</Text>
    </Description>
    <Description Language="it">
        <Text>Pulizia finale</Text>
    </Description>
</Supplement>
```

samples/RatePlans-OTA_HotelRatePlanNotifRQ.xml - example supplement

Discounts are supported through the **Offer** element. AlpineBits only supports offers having a **Discount** element with the **Percent** attribute set to `100`. There are two use cases: free nights ("7+1" formulas and the like) and offers for families (such as "first kid goes free"). Rate plans may only have at most two **Offer** elements - at most one of each kind. Rate plans are applicable to a stay only if **all** offers that are defined in the rate plan are also applicable.

A *free nights offer* has a **Discount** element with the following attributes all **mandatory**:

- **Percent** is `100`
- **NightsRequired** - how many nights at least must be booked for the discount to apply,
- **NightsDiscounted** - how many nights are discounted (if the stay is n times the required nights, the discounted nights also are n times as many),
- **DiscountPattern** - the pattern is required to be in the form (nights required - nights discounted) times the `0` followed by (nights discounted) times the `1`. No other pattern is allowed.

Note that there is some redundancy in the last three attributes. This is done on purpose for clarity.

Free night discounts apply to every amount referring to the discounted night.

Free night discounts **may** be used **only** in conjunction with rates that have a **UnitMultiplier** of `1`.

Here is an example of a *free nights offer*:

```
<Offer>
    <Discount NightsRequired="7" NightsDiscounted="1" Percent="100"
DiscountPattern="0000001"/>
</Offer>
```

samples/RatePlans-OTA_HotelRatePlanNotifRQ.xml - example free nights offer

A *family offer* has a **Discount** element with just the **Percent** attribute set to `100` followed by **at most** one **Guest** elements defining who goes free. **Guest** attributes (all **mandatory**) are:

- **AgeQualifyingCode/MaxAge** - usual age bracket: the discount only applies to children with Age < **MaxAge**,
- **FirstQualifyingPosition** - always set to `1`,
- **LastQualifyingPosition** - number of persons the discount applies to,

Family discounts apply to every amount referring to the discounted family member.

Here is an example of a family offer. If at least one child (up to 5 years old) is present, she will enjoy a free stay:

```
<Offer>
    <Discount Percent="100"/>
    <Guests>
        <Guest AgeQualifyingCode="8" MaxAge="5"
               FirstQualifyingPosition="1" LastQualifyingPosition="1" />
    </Guests>
</Offer>
```

samples/RatePlans-OTA_HotelRatePlanNotifRQ.xml - example family offer (1/2)

Here is another example: up to two children (up to 6 years old) will stay free:

```
<Offer>
    <Discount Percent="100"/>
    <Guests>
        <Guest AgeQualifyingCode="8" MaxAge="6"
               FirstQualifyingPosition="1" LastQualifyingPosition="2" />
    </Guests>
</Offer>
```

samples/RatePlans-OTA_HotelRatePlanNotifRQ.xml - example family offer (2/2)

In case there are more matching children than discounts, AlpineBits requires to discount the children starting from the youngest.

Please note that it is the responsibility of the server to compute the full cost of stay, applying any discount and supplements. In other words, the server would first compute the total cost from the information sent with the **Rate** element. Then it would consider the discount and supplements. Note that a free nights discount should implicitly apply also to any per-day mandatory supplements.

4.5.2. Synchronisation

Clients and servers often wish to exchange only delta information about rates in order to keep the total amount of data to be processed in check. AlpineBits uses the **RatePlanNotifType** attribute in each **RatePlan** element to define exactly how deltas have to be interpreted:

- ➔ **RatePlanNotifType** = `New`

  At least one **Description** element **must** be present in the rate plan.The server adds the rate plan as a whole. If a rate plan with the same **RatePlanCode** already exists, it is replaced.

- ➔ **RatePlanNotifType** = `Overlay`

  The server updates the rate plan (identified by **RatePlanCode**) using the received data. Elements that are not transmitted are not touched, elements that are transmitted are completely replaced (including all subelements). Since empty elements replace existing elements, sending empty elements can be a means to delete them. If the server has no rate plan with the given **RatePlanCode**, it may ignore the client request but must return a warning if it does.

- ➔ **RatePlanNotifType** = `Remove`

  The rate plan **must** be empty (no child elements). The server deletes the rate plan (identified by **RatePlanCode**). If the server has no rate plan with the given **RatePlanCode**, it may ignore the client request but must return a warning in this case.

That being said, there is the special case of rate plan messages that contain a UniqueID element with attribute **Instance** set to `CompleteSet`.

In this case a client indicates it wishes to initiate sending the complete list of its rate plans. The server **must** then consider expired all rate plans it has on record (hint: delete them). In that case, the

RatePlan element will **not** have any **RatePlanNotifType** and **no** child elements must be present (the **RatePlanCode** must of course be present).

Also regarding the `CompleteSet` case, if the client wishes to reset all rate plans for a given hotel it can send a single empty **RatePlan** element (sending no **RatePlan** element at all would violate OTA validation).

Regarding these synchronisation mechanisms, a server must support everything except **RatePlanNotifType** = `Overlay`.

In order to limit the amount of transferred data and processing time, the following rules and recommendations **must** be taken into account:

- ➔ **RatePlanNotifType** = `New`

  Complete RatePlans **must** be transmitted one at a time.

- ➔ **RatePlanNotifType** = `Overlay`

  Updates to more than one RatePlan **may** be bundled into a single request. However, care should be taken to keep the data size within reasonable bounds. In case of doubt, the updates should be transmitted for one RatePlan at a time.

4.5.3. Server response

The server will send a response indicating the outcome of the request. The response is a OTA_HotelRatePlanNotifRS document. Four types of outcome are possible: success, advisory, warning or error. The response messages are the same as for SimplePackages, except for the fact that in the RatePlans case there is no **`RecordID`**. Please see section 4.3.3 for details.

A. AlpineBits developer resources

The AlpineBits development home page is at http://development.alpinebits.org/. Beta versions of the standards are available from that page.

A public repository with example code snippets is online at https://github.com/alpinebits/code-snippets. Contributions are welcome (any programming language).

The site http://alpinebits.testingmachine.eu/ has some code to help test one's implementation.

B. Protocol Version Compatibility

B.1. Major overhaul in version 2014-04

Version 2014-04 was a major overhaul. In most cases, a pre-2014-04 client will not be compatible with a 2014-04 server and viceversa. Here is a list of major changes in 2014-04.

HTTPS layer

The possibility of compression with gzip has been added.

FreeRooms

The possibility to send booking restrictions in FreeRooms has been removed as have the corresponding capabilities. These are better handled by the new RatePlans.

The value of the action parameter has been changed from `FreeRooms` to `OTA_HotelAvailNotif:FreeRooms` for uniformity with the other action values that all follow the `rootElement:actionValue` format.

The possible responses (OTA_HotelAvailNotifRS document) have been re-categorized into four classes: success, advisory (new), warning and error. For error responses the attributes have changed, fixing a bad OTA interpretation.

Finally, the way deltas and complete transmissions are distinguished has changed.
All in all FreeRooms are not compatible with any previous version.

GuestRequests

GuestRequests have been heavily refactored. Previously AlpineBits versions had two type of requests: quotes and booking requests, the current version has three: booking reservations, quote requests and booking cancellations. Also, the client can (and must) now also send acknowledgements.

SimplePackages

The possible responses (OTA_HotelRatePlanNotifRS document) have been re-categorized into four classes: success, advisory (new), warning and error. For error responses the attributes have changed, fixing a bad OTA interpretation.

Inventory and RatePlans

These are new message types introduced with version 2014-04.

B.2. Compatibility between a 2012-05b client and a 2013-04 server

Housekeeping

The client will not send the X-AlpineBits-ClientID field in the HTTP header, since it is not aware of this feature. This will cause authentication problems with those 2013-04 servers that require an ID.

The client will not send the X-AlpineBits-ClientProtocolVersion field in the HTTP header, since it is not aware of this feature. This is no problem: a server that is interested in this, will simply recognize the client as preceding protocol version 2013-04.

If the client checks the server version it will see 2013-04 - a version it doesn't recognize. Likewise, if the client checks the capabilities it might see the `OTA_HotelAvailNotif_accept_deltas` capability. Client implementers interested to have their 2012-05b client talk to a 2013-04 server should verify this is not a problem for their client software.

FreeRooms

There is no compatibility problem in the request part: the client will not send partial information (deltas), since it is simply not aware of the existence of the feature.

Please be aware that the lack of this feature (obviously) causes more data to be send to the server, something not all companies that run servers will be happy with.

The server response might contain a **`Warning`** element the client cannot process. If the client - as it should - carefully parses the response, it will treat this as an error situation and act accordingly. So basically the client is expected to treat the warnings as error, which might be an issue and should be tested for.

GuestRequests

No compatibility problems are expected.

SimplePackages

2013-04 introduced the limitation that all packages send within a single request must refer to the same hotel. A older client not aware of this limit might incur an error returned from the server error.

Similar to the FreeRooms case, the server response might contain a **`Warning`** element the client cannot process. If the client - as it should - carefully parses the response, it will treat this as an error situation and act accordingly. So basically the client is expected to treat the warnings as error, which might be an issue and should be tested for.

B.3 Compatibility between a 2013-04 client and a 2012-05b server

Housekeeping

The client sends the X-AlpineBits-ClientProtocolVersion field and may send the X-AlpineBits-ClientID

field in the HTTP header, but the server will just ignore it - being unaware of the feature.

If the client checks the server version and/or checks the capabilities - as it should - it will note the missing features and not use them.

Hence, technically there is no problem with this combination.

FreeRooms

The client will not send partial information (deltas), since the server does not export the `OTA_HotelAvailNotif_accept_deltas` capability.

The server will never send a response with a **`Warning`** element. This is not a problem for the client.

GuestRequests

In 2013-04 the form of the **`ID`** attribute is not any more restricted. It has become a free text field. An older server might insist on the old form and throw an error.

SimplePackages

The server will never send a response with a **`Warning`** element. This is not a problem for the client.

C. 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/