

D-EDGE: AvailproConnect Distributor

XML 2-ways Specification

API Version 2.0.2 - 04/2020

Versions	Dates	Modifications
2.0	01/2018	Creation
2.0.1	02/2019	Minor changes + D-EDGE change of name + Error list + project steps
2.0.2	04/2020	Minor complementary information

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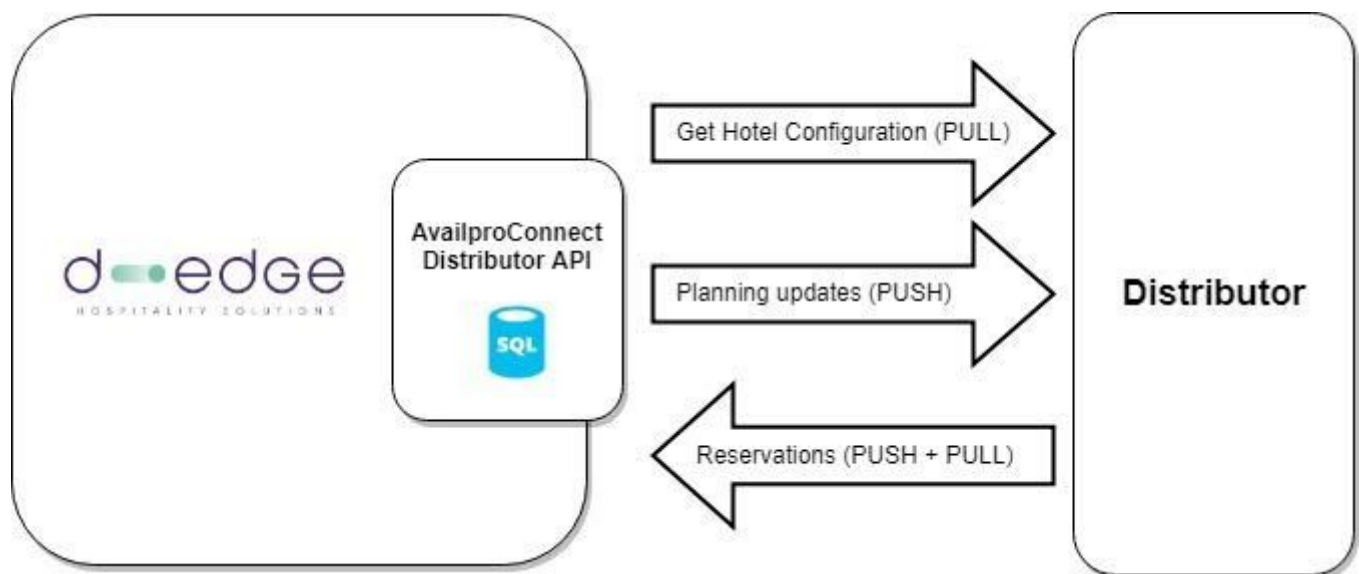
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I. Introduction

1. What is the usage of AvailproConnect Distributor?

AvailproConnect Distributor API allows Distribution Systems in the Hotel Business to obtain real time availabilities/prices/restrictions information regarding hotels that are connected to D-EDGE, and provide back the bookings made on these hotels. In summary, this API allows to:

- Get Hotel Configuration from distributor (mapping stored in AvailproConnect). It's referred in below document as **GetHotel** functionality
- Send inventory updates to distributor (availabilities, prices and restrictions). It's referred in below document as **Update planning** functionality
- Get bookings from distributors (Pulled from AvailproConnect, or Pushed to AvailproConnect). It's referred in below document as **GetBooking** functionality



AvailproConnect Distributor summarized information flow

II. General information

1. Included and excluded functionalities

The table below describes the functionalities included in the AvailproConnect Distributor API, as well as those not supported at the current time.

Included	Excluded (not included)
<ul style="list-style-type: none">• Get hotel configuration on distributor• Send of availability updates on a-daily basis either per room type, or per room type and rate.• Send of prices and restrictions updates on a daily basis including:<ul style="list-style-type: none">- Rate Prices: per room type / rate and optionally per occupancy- Rate open/close status: per room type / rate and optionally per occupancy- Rate minimum stay: per room type / rate- Rate maximum stay: per room type / rate- Rate open/close to arrival: per room type / rate- Rate open/close to departure: per room type / rate• Send to AvailproConnect information concerning reservations/modifications/cancellations (PUSH)• Provide to AvailproConnect information concerning reservations/modifications/cancellations (PULL)	<ul style="list-style-type: none">• The Distributor cannot receive descriptive content of D-EDGE like the hotel description, the room type list and description, or the rate list and description• The Distributor cannot receive cancellation policies. They have to be managed on the distributor side.

2. Distribution system requirements

- The distribution system must handle their own hotel configuration (description & list of room types, description and list of rates, etc.)
- The distribution system must have their own “planning” database of availability, prices and restrictions that will be fed by AvailproConnect XML updates
- The distribution system must have their own booking engine based on their own planning database
- Since D-EDGE is PCI-DSS compliant, it is required that the distribution system provides secured URL endpoints for each functionality, with a valid and trusted certificate. Also, security protocol used on these endpoints should be TLS 1.2

- Only XML content must be in responses to all HTTP requests. There must not have HTML or text responses
- HTTP response code must be 200 OK, even if there are errors. Only exception is if distribution partner service is experiencing issues (50X errors)
- Distribution system must be able to handle huge message volume, and implement if necessary asynchronous system to apply updates in order to reply in less than 30 seconds
- Reservation generated must have a unique Reference number (reservation Id)
- Reservation content should not have room amount different from total booking amount or it could result in non-integration of reservations
- Reservation content must always have constant stay dates (cannot have 1 room for 2 nights and 1 room for 3 nights for the same reservation)
- Reservation content should always have 1 main customer (with firstName/lastName/email at minimum) and at least 1 guest per room (can be the same as the main customer)
- Distribution system must implement both PULL and PUSH booking methods (see [part II.6](#) for more details)

3. Credential management

Credentials have to be defined by the distribution system for the use of GetHotel, Update planning and GetBooking functionalities, with the following constraints:

- AvailproConnect can manage 1 credential per hotel that will be used in the following functionalities: **GetHotel**, and **Update Planning**
- AvailproConnect can manage only 1 global credential (not per hotel) for the **GetBooking** functionality, which will be “hard”-passed in the URL query parameters

Usually, for the simplicity of configuration, it’s strongly recommended to defined only 1 global “master” credential which is valid for all hotels to access all 3 functionalities: **GetHotel**, **UpdateInventory**, and **GetBooking**

Additionally, for the **PushBooking**, specific credentials will be given to distribution partners (more details on [part VI](#))

4. Configuration of AvailproConnect

In order to set up AvailproConnect to be connected to a distribution system, some information is required:

- Credentials defined as above (see [part II.3](#))
- for each hotel, the hotel identifier used on the distributor system (for the **GetHotel** functionality)
- the URL of the web page/service AvailproConnect will use to get hotel configuration on the distributor system
- the URL of the web page/service AvailproConnect will use to retrieve booking information
- the URL of the web page/service AvailproConnect will use to send planning updates

All information sent or received through the AvailproConnect API are using the reference codes and identifiers provided in the **GetHotel** functionality.

5. Mapping

AvailproConnect uses GetHotel functionality in order to make and store the mapping of hotel Id/code, room types Id/codes and rates Id/codes of the distribution partner, for each hotel. These Id/Codes will be sent in planning updates, and must be used to provide bookings to AvailproConnect.

Important: Whenever the configuration changes in distribution partner, information needs to be sent to the hotel in order to redo the mapping on D-EDGE Channel manager.

6. Details on the booking integration methods

There are 2 methods that distributor must implement in order to provide AvailproConnect with reservations (and modification/cancellation)

- PULL method (**GetBooking**): AvailproConnect runs a cron job to retrieve reservations on the distributor system every X minutes (can be configured)
- PUSH method (**PushBooking**): The distributor must send/push to AvailproConnect the reservation as soon as they are confirmed on the distributor system

Both methods are mandatory and ensure that all the reservations are correctly inserted on D-EDGE. The booking integration process in AvailproConnect API is smart enough to recognize that a booking is already inserted so there is no possible duplication of bookings.

7. Error management

There are 2 types of error that AvailproConnect can manage: *failure* and *warning*

- Failure: you have to return failure when the update is refused completely. When returning such an error, AvailproConnect may stop processing other updates. See [part VIII](#)
- Warning: you have to return a warning when the update is working for some of them are not passing for business rule reasons. See [part VIII](#).

AvailproConnect will not resend updates that generated a <failure> or a <warning>.

III. Retrieving hotel configuration

1. Introduction

This functionality allows AvailproConnect to retrieve hotel configuration in the external system in order to feed a mapping interface and database (mapping is held in AvailproConnect).

Retrieving hotel configuration on external systems allows D-EDGE team to connect new hotels without asking per mail the hotel configuration (hotel code, room codes, and rate codes), in order to speed up the process to connect a hotel.

Whenever a configuration changes on a distribution system, it is required that D-EDGE customer service is advised for complementary configuration, as AvailproConnect will not trigger retrieval of hotel configuration automatically.

2. GetHotel retrieval query

A query is sent to distributor system URL using a HTTP-GET method with parameters. Parameters are provided in the URL.

ContentType and Accept header will be "application/xml".

a) Reference

URL parameter	Type	Mandatory / Optional	Description	Validation
login	String	Mandatory	Login necessary to get hotel configuration. Refer to part II.3	
password	String	Mandatory	Password to get hotel configuration. Refer to part II.3	
hotelCode	String	Mandatory	Hotel Id or code	Maximum 50 characters
lang	String	Optional	Language: If not present the default language would be English for room and rate names	EN, FR, US, ES, DE... (ISO code 2 chars)

b) Examples

Here is an example of an URL AvailproConnect invokes when it wants to retrieve hotel information:

<http://www.mydomain.com/gethotel.html?login=xxx&password=yyyyy&hotelCode=12340>

3. GetHotel response

a) Introduction

GetHotel web page must return an XML message containing the rooms, rates and eventual occupancies associated with the hotel.

ContentType returned should be "application/xml".

Important: XML returned in GetHotel will have a huge impact on the “price model” applied for a distribution partner. Refer to [part III.3.c](#) for more information.

b) Reference

GetHotel successful response

Element	Parent Element	Type	Mandatory / Optional	Description	Validation
message					
rooms	message			List of room types	
@hotelId		String	Mandatory	Hotel Id or code	Maximum 50 characters
@hotelName		String	Optional	Hotel name	
@priceModel		String/Enum	Optional	Price model to apply <ul style="list-style-type: none"> • PerDay: in order to receive price per room/rate/day • PerPerson: in order to receive price per room/rate/day and per person • PerOccupancy in order to receive price per room/rate/day and per detailed occupancy (adult and child count) If not present, it is considered as PerDay For more information, refer to part III.3.c	PerDay PerPerson PerOccupancy
room	rooms			A room type	
@code		String	Mandatory	Room type Id or code	Maximum 50 characters
@name		String	Mandatory	Room type name	
@minOccupancy		Integer	Optional/ Mandatory	Room type minimum occupancy This attribute is mandatory when @priceModel is PerPerson or PerOccupancy	Must be >= 1
@maxOccupancy		Integer	Optional/ Mandatory	Room type maximum occupancy This attribute is mandatory when @priceModel is PerPerson or PerOccupancy	Must be >= 1 and exclude extra beds
occupancies	room		Optional/ Mandatory	List of detailed occupancies of the room type. It's mandatory if @priceModel is PerOccupancy	
occupancy	occupancies		Optional/ Mandatory	Detailed occupancy combination. It's mandatory to have at least one <occupancy> if @priceModel is PerOccupancy	
@adultCount		Integer	Mandatory	Adult count	Must be >=1 Cannot have an occupancy line with 0 in adultCount

@childCount		Integer	Mandatory	Child count	
rate		Character string	Mandatory	A rate in partner side. If distribution partner is not having rate notion or can handle only one price line per room, then only one <rate> line must be present with a default @code	One or several rates depending on distributor rate management
@code		String	Mandatory	Rate Id or coder	Maximum 50 characters
@name		String	Mandatory	Rate name	
@regime		String	Optional	Regime description	

GetHotel has failed on distribution system.

Element	Parent element	Type	Mandatory/Optional	Description	Validation
message					
failure	message				
@type		String	Mandatory	Error type or code. Refer to Part VIII .	
@message		String	Optional	The description message	
comment	failure	String (CDATA or string)	Optional	Complementary description message (XML, etc.)	

Get has generated a warning in distribution system.

Element	Parent element	Type	Mandatory/Optional	Description	Validation
message					
warning	message				
@type		String	Mandatory	Warning type or code. Refer to Part VIII .	
@message		String	Optional	The description message	
comment	warning	String (CDATA or string)	Optional	Complementary description message (XML, etc.)	

c) Complementary information – Implementation advices (IMPORTANT)

Information on price models and occupancy management

In order to advise AvailproConnect to send price updates in the correct model, it's important to precise the @priceModel attribute. Here are the possible cases

- @priceModel = PerDay: This is the classic historic model, that indicates to AvailproConnect to send price values per room/rate/day. In this case, the prices are therefore for the room default occupancy and is the same for all persons or occupancies. More information on the impact of price models in the planning update message is given in [part IV.2.b](#).

- @priceModel = PerPerson: This model indicates to AvailproConnect to send price values per room/rate/person/day. In this case, the prices are sent for all possible person combinations between @minOccupancy and @maxOccupancy. More information on the impact of price models in the planning update message is given in [part IV.2.b](#).
- @priceModel = PerOccupancy: This model indicates to AvailproConnect to send price values per room/rate/adult+child/day. In this case, the prices are sent for all detailed <occupancy> combinations given in the <room> element. In this case the <occupancies> element (and childs) are mandatory, and distribution partner needs to precise all possible <occupancy> combinations wished to be updated by AvailproConnect. More information on the impact of price models in the planning update message is given in [part IV.2.b](#).

Quick summary

Price handled per room/rate/day	Price handled per room/rate/person count/day	Price handled per room/rate/adult+child count/day	@priceModel to use in GetHotel
X			@priceModel must be PerDay or not present.
	X		@priceModel must be PerPerson
		X	@priceModel must be PerOccupancy

Note: If distributor system is only able to manage one price line per room, and do not have a “rate” notion, then only one <rate> line should be given with the @code of their choice

d) Examples

This is an example of a response to a hotel retrieval query when using multi rate mode, without detailed occupancies (priceModel = PerPerson).

```
<?xml version="1.0" encoding="utf-8"?>
<message xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns:xsd="http://www.w3.org/2001/XMLSchema">
  <rooms hotelId="1114" hotelName="My test hotel" priceModel="PerPerson">
    <room code="12002207" name="Absolute Levitation Room" minOccupancy="1" maxOccupancy="1">
      <rate code="12002207" name="Flexible Rate" regime="Bed Only" />
      <rate code="12045862" name="Prepayment Rate" regime="Bed Only" />
    </room>
    <room code="12002208" name="Room Closer to the Stars" minOccupancy="1" maxOccupancy="2">
      <rate code="12002208" name="Flexible Rate" regime="Bed Only" />
      <rate code="12045863" name="Prepayment Rate" regime="Bed Only" />
    </room>
    <room code="12002209" name="Suspended Bath Room" minOccupancy="1" maxOccupancy="3">
      <rate code="12002209" name="Flexible Rate" regime="Bed Only" />
      <rate code="12045865" name="Prepayment Rate" regime="Bed Only" />
    </room>
    <room code="12002210" name="Suite" minOccupancy="1" maxOccupancy="4">
      <rate code="12002210" name="Flexible Rate" regime="Bed Only" />
      <rate code="12045864" name="Breakfast included" regime="Bed and breakfast" />
    </room>
  </rooms>
</message>
```

This is an example of a response to a hotel retrieval query when using multi rate mode, with detailed occupancies (priceModel = PerOccupancy).

```
<?xml version="1.0" encoding="utf-8"?>
<message xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns:xsd="http://www.w3.org/2001/XMLSchema">
  <rooms hotelId="1114" hotelName="My test hotel" priceModel="PerOccupancy">
    <room code="12002207" name="Absolute Levitation Room" minOccupancy="1" maxOccupancy="1">
      <occupancies>
        <occupancy adultCount="1" childCount="0" />
      </occupancies>
      <rate code="12002207" name="Flexible Rate" regime="Bed Only" />
      <rate code="12045862" name="Prepayment Rate" regime="Bed Only" />
    </room>
    <room code="12002208" name="Room Closer to the Stars" minOccupancy="1" maxOccupancy="2">
      <occupancies>
        <occupancy adultCount="1" childCount="0" />
        <occupancy adultCount="1" childCount="1" />
        <occupancy adultCount="2" childCount="0" />
      </occupancies>
      <rate code="12002208" name="Flexible Rate" regime="Bed Only" />
      <rate code="12045863" name="Prepayment Rate" regime="Bed Only" />
    </room>
    <room code="12002209" name="Suspended Bath Room" minOccupancy="1" maxOccupancy="3">
      <occupancies>
        <occupancy adultCount="1" childCount="0" />
        <occupancy adultCount="2" childCount="0" />
        <occupancy adultCount="3" childCount="0" />
      </occupancies>
      <rate code="12002209" name="Flexible Rate" regime="Bed Only" />
      <rate code="12045865" name="Prepayment Rate" regime="Bed Only" />
    </room>
    <room code="12002210" name="Suite" minOccupancy="1" maxOccupancy="4">
      <occupancies>
        <occupancy adultCount="1" childCount="0" />
        <occupancy adultCount="1" childCount="1" />
        <occupancy adultCount="2" childCount="2" />
        <occupancy adultCount="4" childCount="0" />
      </occupancies>
      <rate code="12002210" name="Flexible Rate" regime="Bed Only" />
      <rate code="12045864" name="Breakfast included" regime="Bed and breakfast" />
    </room>
  </rooms>
</message>
```

If the request would fail for any reason, it's necessary to return an error message with an error description:

```
<?xml version="1.0" encoding="utf-8"?>
<message>
  <failure>
    <comment>
      <![CDATA[Incorrect login/password]]>
    </comment>
  </failure>
</message>
```

IV. Receiving planning updates

1. Introduction

The *AvailproConnect Distributor* API allows partners to receive planning updates in real-time (availability, prices and restrictions). Whenever a change occurs in hotel planning (change on D-EDGE, new booking, etc.), an availability update is automatically sent.

Important:

- Distributor system must be able to receive planning updates at any time
- **Distributor system must be able to handle updates on large period range, especially during the initialisation/synchronization of inventories that occurs each time a new property is connected**

The initialisation procedure is performed when a new property is connected or each time an existing hotel configuration changes (ex: adding/modifying/deleting a room type). The steps of the initialisation procedure are the following:

- A- Send of planning updates in order to close all existing room type configured in the distributor system (optional – not activated per default)
- B- Send of planning updates with the real property planning filled in D-EDGE.

Information sent by AvailproConnect contains:

- **Availability (quantity of remaining rooms) per room type/day combination, or per room type/rate/day combination**
- **Pricing information (tax included) depending on the price model, which is related to the *GetHotel* functionality.**
- **Minimum stay information (minimum stay duration required to book a room/rate), per room type/rate/day combination**
- **Maximum stay information (maximum stay duration required to book a room/rate), per room type/rate/day combination**
- **Open or Close to arrival information, per room type/rate/day combination**
- **Open or Close to departure information, per room type/rate/day combination**
- **Open or Close status per room type/rate/day combination**

2. Send of planning updates

Planning updates are sent from D-EDGE when a new hotel is connected (initialization phase) or when updates occur on hotel planning (following a manual change, or a reservation). A single notification may contain planning updates for one or more room types, one or more rates and one or more days but always for one hotel at a time.

The planning updates are sent by using an HTTP-request made on a URL given by the distribution system.

This URL is invoked using an **XML POST** request (XML is posted in the “raw” content of the distribution system service/page).

Content Type and Accept header will be either “text/xml” or “application/xml”, or not provided, and HTTP response should be returned with contentType being “application/xml”.

Planning update message can contain Byte Order Mark when sent from AvailproConnect production environment, therefore the distributor system must take that in consideration.

Tips: For distribution systems using PHP, the XML content can be retrieved by using:

```
$fluxXml = $GLOBALS['HTTP_RAW_POST_DATA'];
```

a) Reference

Element	Parent element	Type	Mandatory / optional	Description	Validation
message					
authentication	message		Mandatory	Base element allowing to indicate credentials. Refer to part II.3	
@login		String	Mandatory	Login to use. Refer to part II.3	
@password		String	Mandatory	Password to use. Refer to part II.3	
inventoryUpdate	message		Mandatory		
@hotelId		String	Mandatory	Hotel Id or code.	Maximum 50 characters
room	inventoryUpdate		Mandatory		
@id		String	Mandatory	Room type Id or code.	Maximum 50 characters
inventory	room		Optional	If element is not present, it means the update concerns prices and restrictions only	
availability	inventory		Mandatory		
@from		Date	Mandatory	Date from which update needs to be applied.	YYYY-MM-DD format
@to		Date	Mandatory	Date until which update needs to be applied. This date is Included.	YYYY-MM-DD format
@quantity		Integer	Mandatory	Available number of rooms for the specified room type, and to be applied on each day of the specified date range (from / to).	0 to 99 999
rate	room		Optional	If this element is not set, the following elements will not be set either.	
@currency		String	Optional	Rate currency: see the list of supported currency codes. If not present, it means that rate is not activated/mapped on AvailproConnect for the specific room	Currency ISO code
@rateCode		String	Mandatory	Rate Id or code	Maximum 50 characters
@rateName		String	Optional	Rate name. It's generally populated with the same value as in @rateCode	
planning	rate		Mandatory		
@from		Date	Mandatory	Date from which update needs to be applied.	YYYY-MM-DD format

@to		Date	Mandatory	Date until which update needs to be applied. This date is Included.	YYYY-MM-DD format
@unitPrice		Decimal	Optional	Price of the room type, for the specified rate, and to be applied on each day of the specified date range (from / to). It might be not present in following cases: <ul style="list-style-type: none"> Price model is PerPerson or PerOccupancy. See part IV.2.b No prices are defined, or room/rate is closed. In that case, simply DO NOT update price value. 	
@minimumStay		Integer	Optional	If the attribute is set: Minimum stay duration required to book the specified room, rate and to be applied on every days of the specified date range (from / to). If NOT set, simply DO NOT update minimum stay value.	1 to 99
@maximumStay		Integer	Optional	If the attribute is set: Maximum stay duration required to book the specified room, rate and to be applied on every days of the specified date range (from / to). If NOT set, simply DO NOT update maximum stay value.	1 to 99
@noArrival		Boolean	Optional	If the attribute is set: Open/Close to arrival restriction to be applied on the specified room, rate and on every days of the specified date range (from / to). If NOT set, simply DO NOT update open/close to arrival value.	"true" or "false"
@noDeparture		Boolean	Optional	If the attribute is set: Open/Close to departure restriction to be applied on the specified room, rate and on every days of the specified date range (from / to). If NOT set, simply DO NOT update open/close to departure value.	"true" or "false"
@isClosed		Boolean	Optional	If the attribute is set: Open/close to sale to be applied on the specified room, rate and on every days of the specified date range (from / to). If NOT set, simply DO NOT update open/close status.	"true" or "false"
@availability		Integer	Optional	This attribute is sent depending on AvailproConnect configuration. See part IV.2.b If sent, it gives the availability for this room type/rate combination.	0 to 99 999
occupancy	planning		Optional	Present if the price model is PerPerson or PerOccupancy. See part IV.2.b Multiple elements are possible	
@personCount		Integer	Optional/Mandatory	Number of person for which the @unitPrice should be applied, on the specified room, rate and on every days of the specified date range (from / to). Present if price model is PerPerson, and not present if PerOccupancy. More information on part IV.2.b	1 to 99
@adultCount		Integer	Optional/Mandatory	Number of adults for which the @unitPrice should be applied, on the specified room, rate and on	1 to 99

				every days of the specified date range (from / to). Present if price model is PerOccupancy, and not present if PerPerson. More information on part IV.2.b	
@childCount		Integer	Optional/Mandatory	Number of childs for which the @unitPrice should be applied, on the specified room, rate and on every days of the specified date range (from / to). Present if price model is PerOccupancy, and not present if PerPerson. More information on part IV.2.b	1 to 99
@unitPrice		Decimal	Optional	Depending on price model <ul style="list-style-type: none"> • Price of the room type, for the specified rate, for the number of persons and to be applied on each day of the specified date range (from / to). • Price of the room type, for the specified rate, for the number of adult+child and to be applied on each day of the specified date range (from / to). More information on part IV.2.b If not present, it means occupancy is closed, therefore @siClosed will be "true"	
@isClosed		Boolean	Mandatory	Depending on price model <ul style="list-style-type: none"> • Open/Close of sale on the room type, for the specified rate, for the number of persons and to be applied on each day of the specified date range (from / to). • Open/Close of sale on the room type, for the specified rate, for the number of adult+child and to be applied on each day of the specified date range (from / to). 	

b) Complementary information – Implementation advises

Room or Rate availability:

AvailproConnect sends availability per room type, and eventually per room type/rate combination. By default, availability will always be sent at minimum per room type. In case distributor requires to receive availability also per room type/rate, please advise your D-EDGE technical contact.

Not handling the « NoArrival » notion?

In the case the distribution system is not specifically managing the NoArrival notion, a simple solution exists. NoArrival matches with a high minimum stay value in D-EDGE, so if you don't have a specific notion of "No arrival" in your system, and in case you receive "noArrival = true", you just have to update your minimum stay value with the highest value possible in your system (for example: 99) and not take the @minimumStay value sent in XML.

Handling optional attributes of Planning:

As you can see, all attributes of <planning> element are optional. They will be sent by AvailproConnect system in the majority of the cases, but you have to consider that each attribute can be not present. The rule is quite simple: you simply need to update what is in the XML content for the hotel/room/rate/(occupancy)/days combination.

Explanation on price updates depending of price model:

The way of sending price updates will depend on the price model, returned in *GetHotel*. Explanation on price model is given in [part III.3.c](#).

There are 3 cases of price model, here are information on how prices updates are sent depending on the price model

- PerDay: price will be provided in <planning> element per room/rate/day
- PerPerson: price will be provided in <occupancy> elements, and there will be one <occupancy> element per number of person (using @personCount attribute) between @minOccupancy and @maxOccupancy returned in GetHotel (per room type)
- PerOccupancy: price will be provided in <occupancy> elements, and there will be one <occupancy> element with @adultCount, @childCount and @infantCount combinations. These combinations are the ones returned in GetHotel in <occupancy> elements (per room type)

c) Examples

Example of a planning update sent for a hotel that have 3 rates configured in AvailproConnect API configuration page, and having rooms with price model = PerDay:

- BAR (Best Available rate)
- PACKAGE1 (Package offer)
- RACKPRI (The public rate of the hotel)

```
<?xml version="1.0" encoding="utf-8"?>
<message xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns:xsd="http://www.w3.org/2001/XMLSchema">
  <authentication login="MyLog" password="MyPass" />
  <inventoryUpdate hotelId="4">
    <room id="B3T">
      <inventory>
        <availability from="2017-12-28" to="2017-12-28" quantity="1" />
        <availability from="2017-12-29" to="2017-12-31" quantity="1" />
        <availability from="2018-01-01" to="2018-01-01" quantity="1" />
        <availability from="2018-01-02" to="2018-03-31" quantity="1" />
        <availability from="2018-04-01" to="2018-12-30" quantity="1" />
      </inventory>
      <rate currency="EUR" rateCode="BAR" rateName="Best Available Rate">
        <planning from="2017-12-28" to="2017-12-28" minimumStay="1" maximumStay="1"
unitPrice="210" noArrival="false" noDeparture="false" isClosed="false" />
        <planning from="2017-12-29" to="2017-12-31" minimumStay="1" maximumStay="1"
unitPrice="273" noArrival="false" noDeparture="false" isClosed="false" />
        <planning from="2018-01-01" to="2018-01-01" minimumStay="1" maximumStay="1"
unitPrice="340.0000" noArrival="false" noDeparture="false" isClosed="false" />
        <planning from="2018-01-02" to="2018-03-31" minimumStay="1" maximumStay="1"
unitPrice="294" noArrival="false" noDeparture="false" isClosed="false" />
        <planning from="2018-04-01" to="2018-12-30" minimumStay="1" maximumStay="1"
unitPrice="340.0000" noArrival="false" noDeparture="false" isClosed="false" />
      </rate>
    </room>
  </inventoryUpdate>
</message>
```

```

        <rate currency="EUR" rateCode="PACKAGE1" rateName="Package Offer">
            <planning from="2017-12-28" to="2017-12-28" minimumStay="1" maximumStay="1"
unitPrice="380.0000" noArrival="false" noDeparture="false" isClosed="false" />
            <planning from="2017-12-29" to="2017-12-31" minimumStay="1" maximumStay="1"
unitPrice="380.0000" noArrival="false" noDeparture="false" isClosed="false" />
            <planning from="2018-01-01" to="2018-01-01" minimumStay="1" maximumStay="1"
unitPrice="357" noArrival="false" noDeparture="false" isClosed="false" />
            <planning from="2018-01-02" to="2018-03-31" minimumStay="1" maximumStay="1"
unitPrice="340.0000" noArrival="false" noDeparture="false" isClosed="false" />
            <planning from="2018-04-01" to="2018-12-30" minimumStay="1" maximumStay="1"
unitPrice="340.0000" noArrival="false" noDeparture="false" isClosed="false" />
        </rate>
        <rate currency="EUR" rateCode="RACKPRI" rateName="Public Price">
            <planning from="2017-12-28" to="2017-12-28" minimumStay="1" maximumStay="1"
unitPrice="380.0000" noArrival="false" noDeparture="false" isClosed="false" />
            <planning from="2017-12-29" to="2017-12-31" minimumStay="1" maximumStay="1"
unitPrice="380.0000" noArrival="false" noDeparture="false" isClosed="false" />
            <planning from="2018-01-01" to="2018-01-01" minimumStay="1" maximumStay="1"
unitPrice="340.0000" noArrival="false" noDeparture="false" isClosed="false" />
            <planning from="2018-01-02" to="2018-03-31" minimumStay="1" maximumStay="1"
unitPrice="340.0000" noArrival="false" noDeparture="false" isClosed="false" />
            <planning from="2018-04-01" to="2018-12-30" minimumStay="1" maximumStay="1"
unitPrice="340.0000" noArrival="false" noDeparture="false" isClosed="false" />
        </rate>
    </room>
</inventoryUpdate>
</message>

```

Example of a planning update without price nor restrictions.

```

<?xml version="1.0" encoding="utf-8"?>
<message xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns:xsd="http://www.w3.org/2001/XMLSchema">
    <authentication login="availpro" password="thepassword" />
    <inventoryUpdate hotelId="303753976">
        <room id="SGL">
            <inventory>
                <availability from="2017-05-06" to="2017-12-30" quantity="0" />
            </inventory>
        </room>
        <room id="DBL">
            <inventory>
                <availability from="2017-05-06" to="2017-12-30" quantity="0" />
            </inventory>
        </room>
    </inventoryUpdate>
</message>

```

Example of a planning update with a price model PerPerson, containing 2 rooms: B2T (minOccupancy=1 & maxOccupancy=2) and B3T (minOccupancy=1 & maxOccupancy=2).

```

<?xml version="1.0" encoding="utf-8"?>
<message xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns:xsd="http://www.w3.org/2001/XMLSchema">
    <authentication login="MyLog" password="MyPass" />
    <inventoryUpdate hotelId="4">
        <room id="B2T">
            <inventory>
                <availability from="2017-12-28" to="2018-01-01" quantity="5" />
                <availability from="2018-01-02" to="2018-03-31" quantity="3" />
                <availability from="2018-04-01" to="2018-12-30" quantity="2" />
            </inventory>
            <rate currency="EUR" rateCode="BAR" rateName="Best Available Rate">
                <planning from="2017-12-28" to="2017-12-28" minimumStay="1" maximumStay="99"
noArrival="false" noDeparture="false" isClosed="false">
                    <occupancy personCount="1" unitPrice="100.00" isClosed="false" />
                    <occupancy personCount="2" unitPrice="120.00" isClosed="true" />
                </planning>
            </rate>
        </room>
    </inventoryUpdate>
</message>

```

```

        <planning from="2017-12-29" to="2018-03-31" minimumStay="1" maximumStay="99"
noArrival="false" noDeparture="false" isClosed="false">
            <occupancy personCount="1" unitPrice="100.00" isClosed="false" />
            <occupancy personCount="2" unitPrice="120.00" isClosed="false" />
        </planning>
        <planning from="2018-04-01" to="2018-12-30" minimumStay="1" maximumStay="99"
noArrival="false" noDeparture="false" isClosed="false">
            <occupancy personCount="1" unitPrice="100.00" isClosed="false" />
            <occupancy personCount="2" unitPrice="120.00" isClosed="false" />
        </planning>
    </rate>
</room>
<room id="B3T">
    <inventory>
        <availability from="2017-12-28" to="2018-12-30" quantity="9" />
    </inventory>
    <rate currency="EUR" rateCode="BAR" rateName="Best Available Rate">
        <planning from="2017-12-28" to="2018-12-30" minimumStay="1" maximumStay="99"
noArrival="false" noDeparture="false" isClosed="false">
            <occupancy personCount="1" unitPrice="211.00" isClosed="false" />
            <occupancy personCount="2" unitPrice="245.00" isClosed="false" />
            <occupancy personCount="3" unitPrice="277.00" isClosed="false" />
        </planning>
    </rate>
</room>
</inventoryUpdate>
</message>

```

Example of a planning update with a price model PerOccupancy, containing 2 rooms:

- B2T declared with following occupancy combination in GetHotel
 - Adult count = 1 + Child count = 0
 - Adult Count = 1 + Child count = 1
 - Adult Count = 2 + Child count = 0
- B3T declared with following occupancy combination in GetHotel
 - Adult count = 1 + Child count = 0
 - Adult count = 2 + Child count = 0
 - Adult count = 3 + Child count = 0

```

<?xml version="1.0" encoding="utf-8"?>
<message xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns:xsd="http://www.w3.org/2001/XMLSchema">
    <authentication login="MyLog" password="MyPass" />
    <inventoryUpdate hotelId="4">
        <room id="B2T">
            <inventory>
                <availability from="2017-12-28" to="2011-01-01" quantity="5" />
                <availability from="2018-01-02" to="2018-03-31" quantity="3" />
                <availability from="2018-04-01" to="2018-12-30" quantity="2" />
            </inventory>
            <rate currency="EUR" rateCode="BAR" rateName="Best Available Rate">
                <planning from="2017-12-28" to="2017-12-28" minimumStay="1" maximumStay="99"
noArrival="false" noDeparture="false" isClosed="false">
                    <occupancy adultCount="1" childCount="0" unitPrice="100.00" isClosed="false" />
                    <occupancy adultCount="1" childCount="1" unitPrice="105.00" isClosed="false" />
                    <occupancy adultCount="2" childCount="0" unitPrice="120.00" isClosed="false" />
                </planning>
                <planning from="2017-12-29" to="2018-03-31" minimumStay="1" maximumStay="99"
noArrival="false" noDeparture="false" isClosed="false">
                    <occupancy adultCount="1" childCount="0" unitPrice="101.00" isClosed="false" />
                    <occupancy adultCount="1" childCount="1" unitPrice="108.00" isClosed="false" />
                    <occupancy adultCount="2" childCount="0" unitPrice="122.00" isClosed="false" />
                </planning>
                <planning from="2018-04-01" to="2018-12-30" minimumStay="1" maximumStay="99"
noArrival="false" noDeparture="false" isClosed="false">
                    <occupancy adultCount="1" childCount="0" unitPrice="103.00" isClosed="false" />
                    <occupancy adultCount="1" childCount="1" unitPrice="111.50" isClosed="false" />
                    <occupancy adultCount="2" childCount="0" unitPrice="128.00" isClosed="false" />
                </planning>
            </rate>
        </room>
    </inventoryUpdate>
</message>

```

```

        </rate>
    </room>
    <room id="B3T">
        <inventory>
            <availability from="2017-12-28" to="2018-12-30" quantity="9" />
        </inventory>
        <rate currency="EUR" rateCode="BAR" rateName="Best Available Rate">
            <planning from="2017-12-28" to="2018-12-30" minimumStay="1" maximumStay="99"
noArrival="false" noDeparture="false" isClosed="false">
                <occupancy adultCount="1" childCount="0" unitPrice="211.00" isClosed="false" />
                <occupancy adultCount="2" childCount="0" unitPrice="213.00" isClosed="false" />
                <occupancy adultCount="3" childCount="0" unitPrice="218.00" isClosed="false" />
            </planning>
        </rate>
    </room>
</inventoryUpdate>
</message>

```

3. Planning update response

a) Reference

Notification has successfully been processed.

Element	Parent element	Type	Mandatory/Optional	Description	Validation
message					
success	message			Request has been successfully processed	

Processing of the inventory update notification has failed on the distribution system.

Element	Parent element	Type	Mandatory/Optional	Description	Validation
message					
failure	message				
@type		String	Mandatory	Error type or code. Refer to Part VIII	
@message		String	Optional	The description message	
comment	failure	String (CDATA or string)	Optional	Complementary description message (XML, etc.)	

Processing of the inventory update notification has generated a warning in distribution system.

Element	Parent element	Type	Mandatory/Optional	Description	Validation
message					
warning	message				
@type		String	Mandatory	Warning type or code. Refer to Part VIII	
@message		String	Optional	The description message	
comment	warning	String (CDATA or string)	Optional	Complementary description message (XML, etc.)	

b) Examples

Notification has successfully been processed.

```
<?xml version="1.0" encoding="utf-8"?>
<message>
  <success />
</message>
```

Processing of the inventory update notification has failed.

```
<?xml version="1.0" encoding="utf-8"?>
<message>
  <failure type="512">
    <comment>
      <![CDATA[<stack>An exception has occurred, database problems</stack>]]></comment>
    </failure>
  </message>
```

V. Providing booking information

1. Introduction

Providing booking information to AvailproConnect (booking creation, booking modification or booking cancelation) is done by providing an URL to which AvailproConnect API can connect frequently to obtain a list of bookings updated for a specified period of time. It's done either by using "from/to" parameters, or "duration" parameter.

Important: The implementation of the booking retrievals with the 2 methods (from/to & duration) is mandatory.

AvailproConnect API will connect to this URL frequently (for instance, once per minute) to retrieve information concerning new bookings, as well as modifications or cancelations of existing bookings concerning all connected hotels.

The distributor system must return all the bookings for all the connected hotels through AvailproConnect so AvailproConnect will not initiate 1 retrieval process per hotel.

Alternatively, the distributor must implement a way to return bookings for a single hotel (use of *hotelID* parameter in the query). AvailproConnect will then initiate 1 call per active hotel.

It is strongly recommended that the booking retrieval service is hosted on a SSL, using an HTTP URL. It becomes mandatory to have SSL if credit card details are transmitted



Bookings provided to AvailproConnect are processed **asynchronously** into D-EDGE, and considered as validated/confirmed bookings.

2. Booking retrieval query for all connected hotels

A query is sent to distributor system URL using a HTTP-GET method with parameters. Parameters are provided in the URL and define the date range (or the time duration) on which AvailproConnect wants to retrieve booking information.

Content Type and Accept header will be either "text/xml" or "application/xml", or not provided, and HTTP response should be returned with contentType being "application/xml".

a) Reference

URL parameter	Type	Mandatory / Optional	Description	Validation
login	String	Optional 	Login necessary for getting reservation / To access this web page	Supplied and validated by the distributor
password	String	Optional 	Password necessary for getting reservation / To access this web page	Supplied and validated by the distributor
from	Date/Time	Optional (*)	UTC Date and time defining the period start. If "from" parameter is used then the "duration" parameter must not be used.	YYYY-MM-DDTHH:MM:SS form ex: 2008-05-03T10:03:25

to	Date/Time	Optional (*)	UTC Date and time defining the period end. If "to" parameter is used then the "duration" parameter must not be used.	YYYY-MM-DDTHH:MM:SS form ex: 2008-05-03T10:03:25
duration	Integer	Optional (*)	Number of past hours on which we want to get reservations. If "duration" parameter is used then the "from" and "to" parameters must not be used.	

(*) if no *from*, *to* or *duration* parameters are passed, then you must consider that it's equivalent du duration = 1.



: If the distributor system requires credentials (login and password) in order to let AvailproConnect access to the page/service of booking retrieval, then these credentials have to be the same for all connected hotels. AvailproConnect cannot set up a different credential per hotel in the HTTP request.

b) Examples

Here is an example of an URL AvailproConnect invokes when it wants to retrieve booking information, for all connected hotels, on a time period with "from" and "to" parameters:

<https://www.mydomain.com/mypage.html?login=xxx&password=yyyyy&from=2008-04-20T20:00:00&to=2008-04-20T21:00:00>

Here is an example of an URL AvailproConnect invokes when it wants to retrieve booking information, for all connected hotels, on a time period with "duration" parameter:

<https://www.mydomain.com/mypage.html?login=xxx&password=yyyyy&duration=1>

3. Booking retrieval query for specific hotel

AvailproConnect sends the same HTTP-GET request as the previous request but with just one more item: a "hotelId" is present in the URL to identify the hotel.

Content Type and Accept header will be either "text/xml" or "application/xml", or not provided, and HTTP response should be returned with contentType being "application/xml".

a) Reference

URL parameter	Type	Mandatory / Optional	Description	Validation
hotelId	Character string	Mandatory	Id of the hotel requested	Supplied and validated by the distributor Maximum 50 characters
login	Character string	Optional 	Login necessary for getting reservation / To access this web page	Supplied and validated by the distributor
password	Character string	Optional 	Password necessary for getting reservation / To access this web page	Supplied and validated by the distributor
from	Date/Time	Optional (*)	UTC Date and time defining the period start. If "from" parameter is used then the "duration" parameter must not be used.	YYYY-MM-DDTHH:MM:SS form ex: 2008-05-03T10:03:25
to	Date/Time	Optional (*)	UTC Date and time defining the period end.	YYYY-MM-DDTHH:MM:SS form ex: 2008-05-03T10:03:25

			If "to" parameter is used then the "duration" parameter must not be used.	
duration	Integer	Optional (*)	Number of past hours on which we want to get reservations. If "duration" parameter is used then the "from" and "to" parameters must not be used.	

(*) if no *from*, *to* or *duration* parameters are passed, then you must consider that it's equivalent du duration = 1.



: If the distributor system requires credentials (login and password) in order to let AvailproConnect access to the page/service of booking retrieval, then these credentials have to be the same for all connected hotels. AvailproConnect cannot set up a different credential per hotel in the HTTP request.

b) Examples

Here is an example of an URL AvailproConnect invokes when it wants to retrieve booking information, for a specific hotel, on a time period with "from/to" parameters:

<https://www.mydomain.com/mypage.html?login=xxx&password=yyyyy&from=2008-04-20T20:00:00&to=2008-04-20T21:00:00&hotelId=Hotel54>

Here is an example of an URL AvailproConnect invokes when it wants to retrieve booking information, for a specific hotel, on a time period with "duration" parameter:

<https://www.mydomain.com/mypage.html?login=xxx&password=yyyyy&duration=1&hotelId=Hotel54>

4. Booking retrieval response

a) Introduction

Your service/ web page must return an XML document containing the booking data for newly created bookings, as well as the modifications and the cancelations that occurred between the specified date ranges (from/to or duration), and for either a specific hotel (identified with hotelId parameter) or all connected hotels (no hotelId parameter).

Let's take an example of 2 bookings made on the same hotel (only one connected hotel), the same day and having the following history:

- 8 a.m.: booking B1 is created
- 10 a.m.: booking B2 is created
- 10:30 a.m.: booking B2 is cancelled

By using *from* and *to* parameters:

If AvailproConnect request bookings with the following parameters: from = 2017-06-19T08:00:00, to = 2017-06-19T09:00:00

⇒ The distribution system application must return booking B1 with a status = Create

If AvailproConnect request bookings with the following parameters: from = 2017-06-19T09:30:00, to = 2017-06-19T09:40:00

⇒ The distribution system application must return no booking

If AvailproConnect request bookings with the following parameters: from = 2017-06-19T09:50:00, to = 2017-06-19T10:10:00

⇒ The distribution system application must return no booking because the booking status has been modified to Cancelled at 10:30 a.m.

If AvailproConnect request bookings with the following parameters: from = 2017-06-19T10:20:00, to = 2017-06-19T11:00:00

⇒ The distribution system application must return booking B2 with a status = Cancel

By using duration parameter:

If AvailproConnect request bookings on the previous hour at 08:30 (i.e. bookings made between 07:30 and 08:30):

⇒ The distribution system application must return booking B1 with a status = Create

If AvailproConnect request bookings on the previous hour at 09:30 (i.e. bookings made between 08:30 and 09:30):

⇒ The distribution system application must return no booking

If AvailproConnect request bookings on the previous hour at 10:35 (i.e. bookings made between 09:35 and 10:35)

⇒ The distribution system application must return booking B2 with a status = Cancel

b) Reference

GetBooking successful response

Element	Parent element	Type	Mandatory / Optional	Description	Validation
message					
success	message			If success, bookings element must be present.	
bookings	message				
@hotelId		String	Mandatory	Hotel Id or code	Maximum 50 characters
booking	bookings				
@id		String	Mandatory	Distributor unique booking identifier. The same @id must be used if booking is modified or cancelled	Maximum 50 characters
@action		String	Mandatory	Operation processed on booking: <ul style="list-style-type: none">• Create: new booking• Modify: booking modification• Cancel: booking cancellation	Create Modify Cancel

@currency		String (3 letters)	Mandatory	Booking payment currency: see list of supported currency codes.	Currency ISO Code
@date		Date	Mandatory	UTC date and time of the action. if new booking => booking creation date If booking modification => booking modification date If booking cancellation => booking cancellation date	YYYY-MM-DDTHH:MM:SS form ex: 2008-05-03T10:03:25
@totalAmount		Decimal	Mandatory*	Total price of the booking, including taxes	Must be positive.
@paidAmount		Decimal	Mandatory	Amount already paid by the customer, including taxes	Must be positive
@dueAmount		Decimal	Mandatory	Amount to be paid by the customer on arrival, including taxes	Must be positive
@payableAmount		Decimal	Mandatory	Amount to be charged to the distributor by the hotel, including taxes	Must be positive
@origin		String	Optional	Origin of the booking (name of distributor or booking web site, etc.)	
@paxCount		Integer	Mandatory	Total number of people in the whole booking	
@adultCount		Integer	Optional	Number of adults present in the booking	
@childCount		Integer	Optional	Number of children present in the booking	
@infantCount		Integer	Optional	Number of infants present in the booking	
customer	booking		Mandatory	Customer details	
@firstName		String	Mandatory	Customer first name	
@lastName		String	Mandatory	Customer last name	
@title		String	Optional	Customer title: If not set, put as "Mr" by default	Mr Mrs Miss
comment	customer	String (CDATA or Text)	Optional	Customer comments.	
contact	customer		Mandatory	Customer contact information email/phone/fax	
@email		String	Mandatory	Customer email address	Valid email address
@phone		String	Optional	Customer phone number	
@fax		String	Optional	Customer fax number	
address	contact	String (CDATA or string)	Optional	Customer address	
@postalCode		String	Optional	Customer postal code	
@city		String	Optional	Customer city	
@country		String	Optional	Customer country	ISO Code 3166-1, 2 chars. Upper case
creditCard	customer			Bank card details	
@number		String	Optional	Bank card number	

@cardHolder		String	Optional	Bank card holder name	
@expiryDate		Date	Optional	Bank card expire date	YYYY-MM form
@cardType		String	Optional	Credit card type: <ul style="list-style-type: none"> • Visa card • American Express card • EuroCard/MasterCard card • JCB card • Dinner card 	Visa AmericanExpress MasterCard JCB Dinner
rooms	booking		Mandatory	Booked room types	
room	rooms		Mandatory	Booked room type	
@id		String	Mandatory	Room Id or code. In case of unknown value (not mapped) the booking won't be integrated, and error can be seen by D-EDGE support	Maximum 50 characters
stays	room		Mandatory	Stay days details	
stay	stays		Mandatory	Stay day details	
@date		Date	Mandatory	Stay date	YYYY-MM-DD form
@quantity		Integer	Mandatory	Number of rooms booked for the specified room type and day, as defined by @id and @date	
@unitPrice		Decimal	Mandatory	Unit price of the specified room type for the specified day, as defined by @id and @date	
@rateCode		String	Mandatory	Rate Id or code for the current stay. In case of unknown value (not mapped) the booking will be integrated on a random rate code	Maximum 50 characters
guests	room		Mandatory	Guests details	
guest	guests		Mandatory	Guest details	
@firstName		String	Mandatory	Guest first name	
@lastName		String	Mandatory	Guest last name	
@title		String	Optional	Guest title If not set, put as "Mr" by default	Mr Mrs Miss
@ageRange		Decimal	Optional	Age Range of the guest (Adult, child, infant) If not set, guest will be considered as an adult	10 = adult 8 = child 6 = infant
@birthDate		Date	Optional	Guest birthdate	YYYY-MM-DD format
distributor	booking		Optional	Additional information specifiable by the distribution system	
comment	distributor	String (CDATA or string)	Optional	Distributor system comment (used to give additional details on the booking)	

@name		String	Optional	Name/Category of the comment.	
-------	--	--------	----------	-------------------------------	--

GetBooking error response

Element	Parent element	Type	Mandatory / Optional	Description	Validation
message					
failure	message				
@type		String	Mandatory	Type or error code Refer to Part VIII	
@message		String	Optional	The description message	
comment	failure	String (CDATA or string)	Optional	Complementary description message (XML, etc.) in case of failure	

GetBooking warning response

Element	Parent element	Type	Mandatory / Optional	Description	Validation
message					
warning	message				
@type		String	Mandatory	Type or warning code. Refer to Part VIII .	
@message		String	Optional	The description message	
comment	warning	String (CDATA or string)	Optional	Complementary description message (XML, etc.) in case of warning	

c) Complementary information – Implementation advices

Price verifications:

The total of the reservation must be equal to the sum of all nights (“unitPrice” multiplied by “quantity”) plus taxes.

Booking continuous stay

It’s more than recommended to have bookings sent on contiguous stay, and with all the rooms in it on the same stay dates, otherwise it could create integration issues in the whole D-EDGE chains, especially for third parties partners of hotels.

Handling guest details:

AvailproConnect requires to have at least one guest per booked room type in the XML. However, to have detailed information about guests staying in each room, **it’s quite important to fill in the information as precisely as possible.**

Payment models:

Depending on the guarantee and payment model of the distribution system, the attributes: @TotalAmount, @paidAmount, @dueAmount and @payableAmount must be filled correctly.

Case 1: Customer payment at arrival

If the booking model is made so the customer pays its reservation on arrival at the hotel, then for a reservation of 150€ you would have to generate: @totalAmount = 150, @paidAmount= 0, @payableAmount= 0 and @dueAmount= 150

Case 2: Customer payment when booking is made (collected by distribution system)

If the booking model is made so that you charge and collect yourself the customer's money, then for a reservation of 150€ we would have: @totalAmount = 150, @paidAmount= 150, @payableAmount= 150 and @dueAmount= 0

d) Examples

This is an example of a response to a booking query with success. Two bookings have been found in this response.

```
<?xml version="1.0" encoding="utf-8"?>
<message xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  <success />
  <bookings hotelId="1245">
    <booking id="EOC4440" action="Modify" currency="EUR" date="2018-04-14T10:03:25" totalAmount="397"
paidAmount="394" dueAmount="3" payableAmount="200.0" origin="MySite.com" paxCount="3" adultCount="2" childCount="1"
infantCount="0" >
      <customer firstName="Alain" lastName="Dupont" title="Mr">
        <contact email="alain.dupont@mail.com" phone="0620304050" fax="0148002537">
          <address city="Paris" country="FR" postalCode="75002">
            <![CDATA[24 rue du sentier]]>
          </address>
        </contact>
        <creditCard number="01234678912" cardHolder="Alain Dupont" expiryDate="2015-03"
cardType="Visa" />
        <comment>
          <![CDATA[Quiet room with balloons, please.]]>
        </comment>
      </customer>
      <distributor>
        <comment name="Cancel Policy">
          <![CDATA[en cas de noshow, la première nuit sera prélevée.]]>
        </comment>
        <comment name="Guaranty">
          <![CDATA[Credit Card guarantee]]>
        </comment>
      </distributor>
      <rooms>
        <room id="SG">
          <stays>
            <stay date="2018-10-02" quantity="1" unitPrice="62.5" rateCode="BAR" />
            <stay date="2018-10-03" quantity="1" unitPrice="63.0" rateCode="RACK" />
            <stay date="2018-10-04" quantity="1" unitPrice="60.0" rateCode="BAR" />
          </stays>
          <guests>
            <guest firstName="Alain" lastName="Dupont" title="Mr" />
          </guests>
        </room>
        <room id="DB">
          <stays>
            <stay date="2018-10-02" quantity="1" unitPrice="70.5" rateCode="BAR" />
            <stay date="2018-10-03" quantity="1" unitPrice="70.5" rateCode="BAR" />
            <stay date="2018-10-04" quantity="1" unitPrice="70.5" rateCode="BAR" />
          </stays>
          <guests>
            <guest firstName="Helene" lastName="Dupont" title="Mrs" />
          </guests>
        </room>
      </rooms>
    </booking>
  </bookings>
</message>
```

```

        <guest firstName="Lea" lastName="Dupont" title="Miss"
birthDate="2010-02-05" ageRange="8" />
    </guests>
</room>
</rooms>
</booking>
<booking id="EOC4441" action="Create" currency="EUR" date="2010-05-13T10:59:25"
totalAmount="899.5" paidAmount="56.0" dueAmount="843.50" payableAmount="0" origin="MySite.com" paxCount="5"
adultCount="3" childCount="1" infantCount="1">
    <customer firstName="Albert" lastName="Martin" title="Mr">
        <contact email="albert.martin@mail.com" phone="0620304050" fax="0148002537" />
        <creditCard number="01234678912" cardHolder="Albert Martin" expiryDate="2010-04"
cardType="MasterCard" />
        <comment>
            <![CDATA[Etage élevé, merci.]]>
        </comment>
    </customer>
    <distributor>
        <comment name="Cancel Policy">
            <![CDATA[in the event of a noshow, one night will charged]]>
        </comment>
        <comment name="Guaranty">
            <![CDATA[Credit Card guarantee]]>
        </comment>
    </distributor>
    <rooms>
        <room id="TW">
            <stays>
                <stay date="2018-11-21" quantity="1" unitPrice="127.5" />
                <stay date="2018-11-22" quantity="1" unitPrice="145.0" />
                <stay date="2018-11-23" quantity="1" unitPrice="127.5" />
            </stays>
            <guests>
                <guest firstName="Albert" lastName="Martin" title="Mr"
birthDate="1978-02-05" />
                <guest firstName="Helene" lastName="Martin" title="Mrs" ageRange="10" />
            </guests>
        </room>
        <room id="TR">
            <stays>
                <stay date="2018-11-21" quantity="1" unitPrice="166.5" />
                <stay date="2018-11-22" quantity="1" unitPrice="166.5" />
                <stay date="2018-11-23" quantity="1" unitPrice="166.5" />
            </stays>
            <guests>
                <guest firstName="Jean" lastName="Martin" title="Mr" />
                <guest firstName="Louis" lastName="Martin" ageRange="8" />
                <guest firstName="Charles" lastName="Martin" title="Mr" ageRange="6"
birthDate="2012-02-05"/>
            </guests>
        </room>
    </rooms>
</booking>
</bookings>
</message>

```

This is an example of a response to a booking query with failure response (error).

```

<?xml version="1.0" encoding="utf-8"?>
<message>
    <failure type="100" message="communication error" >
        <comment>
            <![CDATA[Database read time-out error]]>
        </comment>
    </failure>
</message>

```

IMPORTANT: In the case a booking query is made but no reservations are available in the requested period, the Response message must contain a Success without bookings inside, like this:

```
<?xml version="1.0" encoding="utf-8"?>
<message>
  <success />
</message>
```


VII. Pushing booking information

1. Introduction

Pushing booking information to AvailproConnect (booking creation, booking modification or booking cancelation) is done by sending each booking created, modified or cancelled to **URL given by AvailproConnect.**

Credentials given for the booking push are specific to this functionality and distributor must be able to change it if D-EDGE staff provides new credentials.

Bookings provided to AvailproConnect are considered as validated/confirmed bookings.

2. Push booking request

The booking message should be in the same format as detailed in **section 4.b.**

The HTTP request must be made using HTTP header credentials (encoded using Basic Access Authentication) provided by the D-EDGE team. The HTTP method to be used is a classical HTTP POST.

Due to their sensitive nature, the endpoint will be secured using HTTPS.

3. Push booking response

Response message returned by AvailproConnect should be those ones below:

Success:

```
<?xml version="1.0" encoding="utf-8"?>
<message>
  <success />
</message>
```

Failure (sample):

```
<?xml version="1.0" encoding="utf-8"?>
<message>
  <failure type="100" message="communication error" >
    <comment>
      <![CDATA[Incorrect data]]>
    </comment>
  </failure>
</message>
```

Warning (sample):

```
<?xml version="1.0" encoding="utf-8"?>
<message>
  <warning type="100" message="business error" >
    <comment>
      <![CDATA[Incorrect data]]>
    </comment>
  </warning>
</message>
```

4. Booking Validation

Note that a success message means that the booking has been correctly read, but does not mean that a booking will be integrated. Bookings sent to an unknown room/hotel or in the past will not raise an error.

AvailproConnect will return an error if the XML is invalid, or if the booking prices do not match (see [part VIII](#))

IX. Error codes and messages

1. Introduction

This chapter gives basic error codes/types and messages recommended by AvailproConnect in case of technical (<failure>) or business error occurring (<warning>).

It is important to return these errors properly in order to be compatible with advanced channel manager features. Please note that @message and @type are especially important, where <comment> can be customized.

In the below, you have to replace the brackets such as *[HotelCode]* by their real value.

IMPORTANT: HTTP response must be 200 OK in order for AvailproConnect to parse and identify the below error list.

2. GetHotel response

Failure or Warning	Error Type/Code (in @type)	Error message (in @message)	Comment (in <comment>)
Failure	1	HotelNotLinked	Hotel ([HotelCode]) is not linked to D-EDGE Channel Manager or is unknown
Failure	2	HotelNotActivated	Hotel ([HotelCode]) is not activated for D-EDGE Channel Manager
Failure	3	BadAuthentication	Credentials is invalid for this Hotel ([HotelCode])
Failure	14	NoRooms	Hotel ([HotelCode]) does not have rooms created or configured
Failure	15	NoRates	Hotel ([HotelCode]) does not have rooms created or configured
Failure	203	InternalError	<u>To be defined by partner</u> : To return when there is a programm/processing error on partner side

3. Inventory update responses

Depending on the distribution system and its possibility, it's highly recommended to process all valid parts of updates even if there is an error (failure or warning) in it, to minimize impacts in case of large updates sent.

Failure or Warning	Error Type/Code (in @type)	Error message (in @message)	Comment (in <comment>)
Failure	1	HotelNotLinked	Hotel ([HotelCode]) is not linked to D-EDGE Channel Manager or is unknown.
Failure	2	HotelNotActivated	Hotel ([HotelCode]) is not activated for D-EDGE Channel Manager
Failure	3	BadAuthentication	Credentials is invalid for this Hotel ([HotelCode])
Failure	4	RoomMappingError	Room ([RoomCode]) is invalid or not configured
Failure	5	RateMappingError	Rate ([RateCode]) is invalid or not configured
Failure	6	RoomRateMapping	The combination of Room ([RoomCode]) and Rate ([RateCode]) is invalid or not configured
Warning	7	RateDerivation	Price for Rate ([RateCode]) cannot be updated because of its configuration
Warning	8	RoomRateDerivation	Price for Rate ([RateCode]) and Room ([RoomCode]) cannot be updated because of its configuration
Warning	9	PriceTooLow	Price for Rate ([RateCode]) and Room ([RoomCode]) cannot be update because it's too low
Warning	10	PriceTooHigh	Price for Rate ([RateCode]) and Room ([RoomCode]) cannot be update because it's too high
Warning	11	MissingOccupancy	Price is missing for following occupancies: X persons, X adults / Y childs, etc.
Warning	12	UnknownOccupancy	Price is sent for unknown occupancies: X persons, X adults / Y childs, etc.
Failure	13	IncorrectPriceCurrency	Price given is not in correct currency
Failure	201	DomInvalidXML	DOM validation parsing error
Failure	202	InvalidXMLMessage	<u>To be defined by partner:</u> XML parsing error when

			message doesn't contain some mandatory elements
Failure	203	InternalError	<u>To be defined by partner:</u> To return when there is a programm/processing error on partner side (please do not put stack trace)

4. Booking retrieval responses

Failure or Warning	Error Type/Code (in @type)	Error message (in @message)	Comment (in <comment>)
Failure	1	HotelNotLinked	Hotel ([HotelCode]) is not linked to D-EDGE Channel Manager or is unknown
Failure	2	HotelNotActivated	Hotel ([HotelCode]) is not activated for D-EDGE Channel Manager
Failure	3	BadAuthentication	Credentials is invalid for this Hotel ([HotelCode])
Failure	203	InternalError	<u>To be defined by partner :</u> To return when there is a programm/processing error on partner side

5. Booking PUSH responses

Note: Concerning the below codes, they are not all implemented in D-EDGE yet.

Failure or Warning	Error Type/Code (in @type)	Error message (in @message)	Comment (in <comment>)
Failure	1	HotelNotLinked	Hotel ([HotelCode]) is not linked to D-EDGE Channel Manager or is unknown
Failure	2	HotelNotActivated	Hotel ([HotelCode]) is not activated for D-EDGE Channel Manager
Failure	3	BadAuthentication	Credentials is invalid for this Hotel ([HotelCode])
Failure	16	InternalError	<u>To be defined by partner :</u> To return when there is a programm/processing error on partner side

Failure	201	DomInvalidXML	DOM validation parsing error
Failure	202	InvalidXMLMessage	XML parsing error when message doesn't contain some mandatory elements (depends on error)
Failure	203	InternalError	AvailproConnect internal error. Please contact D-EDGE

XI. Frequently Asked Question (FAQ)

1. General questions

Does D-EDGE provide NET prices or BRUT/Sellable prices (commission included)?

AvailproConnect provides BRUT/Sellable prices, as it's the most common model and the way prices are set up generally in D-EDGE by hotels. If your model is to handle NET price, please get in touch with your D-EDGE partnership technical contact

What are the possible rate types that can be connected to my system via D-EDGE/AvailproConnect?

You can manage as many rate types as you want, according to your system possibility and what the hotel wants to sell on your distribution system.

Rate types to be connected will have to be checked directly between you and the hotel, D-EDGE will never intervene on that part.

What are the possible rate/price currencies sent by D-EDGE/AvailproConnect?

Currencies are defined by hotels in the D-EDGE system, at rate level. Therefore, a hotel can potentially have several currencies, but it's rare.

We require at least that you manage 1 currency per hotel, allowing them to manage hotels from several countries/currencies. In that case, only rates for this unique currency per hotel will be connected to yours.

What are the IP addresses of the AvailproConnect system (in case I wish to process with IP filtering)?

Please get in touch with your D-EDGE partnership technical contact to get this information.

Are there any specific error codes that must be defined according to this specification?

Yes. See [part VIII](#) of this documentation.

2. Retrieve Hotel configuration

There is mention of a "lang" parameter in URL query, do I have to implement description in several languages?

Lang parameter in the GetHotel functionality is only made so that we can get the room name in the proper language. However, it's totally optional, we only require that getHotel functionality return the Room and rate names in English.

Could you please provide information on how the room/rate mapping is handled in AvailproConnect system?

AvailproConnect is maintaining a mapping table of Hotel ID/Code, room ID/Code and rate ID/Code, that are retrieved using the GetHotel functionality. Therefore, any XML exchange for inventory update and reservations are made using directly your ID/Codes.

In summary, the mapping is hosted on the D-EDGE side, this is why the GetHotel functionality is mandatory to retrieve information from your distribution system.

In order to connect a new hotel and get configuration of it, on your distribution system, only login, password, and hotelCode will be necessary.

3. Update Inventory

Why do I receive strange characters at the beginning of XML stream?

AvailproConnect may provide XML update with Byte Order Mark (BOM). Depending on your technical/program environment, you might need to take it in consideration.

What is the time period range on which AvailproConnect is sending inventory update messages?

D-EDGE allows hotels to manage planning (availability, rates, restrictions) for a sliding 2 years range. XML updates are generally split per month in case of large updates, but it can eventually contain larger update periods.

Why do I receive only room availability in updates, or only prices & restrictions?

D-EDGE is made to send delta updates most of the time, and it's possible that only room availability, only room/rate prices or restrictions are sent if only these values change. It's important to consider each property as independent.

Does AvailproConnect support the send of prices/rate per occupancy (per number of persons)?

Yes, please refer to part 4 (especially 4.3.c) and part 5 (especially 5.2.b) to have an explanation on different price models.

I don't manage "noDeparture", "maximum stay" or "minimum stay" notions on my system, is it mandatory?

No. We will simply notify hotels that this functionality is not supported by your system. However, this can limit the number of rates given by hotels for your system or even limit the number of hotels you can connect.

I don't manage the "noArrival" notion on my system, is it mandatory?

In the case your distribution system is not specifically managing the NoArrival notion, a simple solution exists. NoArrival matches with a high minimum stay value in D-EDGE, so if you don't have a specific notion of "No arrival" in your system, and in case you receive "noArrival = true", you just have to update your minimum stay value with the highest value possible in your system (for example: 99)

If this solution is not possible, then we will simply notify hotel that this functionality is not supported by your system (even though this can limit the number of rates given by hotels for your system)

4. Booking Retrieval and Push Booking

Is it necessary to provide booking modifications and booking cancellations to AvailproConnect?

Yes, depending on your system possibilities.

If your system natively allows booking modification or cancellation, then they must be provided to AvailproConnect when they occur. But if your system does not allow it, then it's not necessary.

Does AvailproConnect provide a booking confirmation/acknowledgement? How can we be sure that D-EDGE correctly integrated reservations?

There is no booking confirmation sent back to your distribution system. AvailproConnect requires that both PULL booking method and PUSH booking method are implemented. Both PULL and PUSH methods are working in parallel to ensure all reservations are well integrated. For example, in case the PUSH doesn't work, the PULL of reservation will be done 5 minutes later, ensuring that reservations are well retrieved by D-EDGE

How can we be sure that an overbooking situation cannot happen (in case 2 distribution systems make booking at the same time)?

Availability and rate updates are sent almost in real time by AvailproConnect, when there is something changed. It's up to you to check if the reservation is made according to availability sent by AvailproConnect, and proceed with this verification several times in your booking process. The bookings you are sending are all accepted. Overbooking situation with 2 reservations at the same time almost never happen, and if yes, hotels are aware of it and its part of our channel manager sales conditions (we guarantee by contract that update are sent to distribution system in a maximum delay of 15 minutes)

Does AvailproConnect support reservations with extra beds?

AvailproConnect system will not send any updates for extra beds, and therefore do not have a simple way to indicate extra beds that may be booked on the distribution system.

However, it is possible to indicate extra beds that are booked, in the distributor comment field as "raw" (not formatted) information, using <distributor><comment> elements.

What is the standard request frequency for the booking retrieval?

AvailproConnect system usually does booking retrieval requests every 5 minutes by default, but it can change up to 1 minute if necessary, with the use of *duration* parameter (in URL query) set per default to 2 (hours).

Is it mandatory to provide guest information details in reservations?

AvailproConnect system requires that customer information (in <customer> element) are filled in properly with the most possible details. At minimum, the following information must be completed:

- LastName
- FirstName
- Title
- Email

Note: In case your system does not distinguish firstName and lastName in separate fields, then you have to put all information in lastName.

About guest details per room (in <guest> element), it is also recommended to give details on them. If distribution system does not have the room guest details, then it is required to:

- have at least one <guest> per room and use the same name as the reservation main customer.
- Generate empty <guest> elements with @birthDate, so that the number of <guest> matches with the @paxCount at booking level

Does AvailproConnect need to have the credit card information details?

No, it's not mandatory. However, if your distribution system is able to provide the information, it is the best for hotels. Also, we don't require the credit card secret code (CVV/CSC).

In case you are not able to give credit card information, then be sure that you provide this information to hotels directly (or give them a way to retrieve it on your system/extranet)

Additionally, it may impact how this connection will be set up on AvailproConnect, so please indicate this information to your D-EDGE partnership technical contact

Is it possible to provide additional information on the booking details to indicate special requirements (like arrival time)?

Yes, in order to do that you need to use the distributor comment (elements <distributor><comment>).

How often (frequency) should we PUSH booking to AvailproConnect?

PUSH booking to AvailproConnect must be done in real time when the reservation is finalized/confirmed on the distribution system.

XIII. Code Sample

1. HttpPost Reader

a) C#

```
HttpRequest request = HttpContext.Current.Request;
if (request.HttpMethod == "POST")
{
    Stream input = request.InputStream;
    StreamReader reader = new StreamReader(input);
    string xml = reader.ReadToEnd();
    reader.Close();
    input.Close();

    XmlDocument doc = new XmlDocument();
    doc.LoadXml(xml);
    // Use doc to manipulate
}
```

2. Booking Send Sample

a) C#

```
string availproURI = "https://XXXX.distributors.availproconnect.com/bookings";
//REPLACE URL BY THE ONE PROVIDED BY AVAILPRO
WebRequest req = WebRequest.Create(availproURI);
req.Method = "POST";
req.ContentType = "text/xml";

string userName = "YourLoginProvided"; // to be replaced
string userPassword = "YourPasswordProvided"; // to be replaced

string authInfo = userName + ":" + userPassword;
authInfo = Convert.ToBase64String(Encoding.Default.GetBytes(authInfo));
req.Headers["Authorization"] = "Basic " + authInfo;

using (StreamWriter writer = new StreamWriter(req.GetRequestStream()))
{
    string xmlToSend = "<message></message>"; // REPLACE BY YOUR XML content (or
    FileReader)
    writer.Write(xmlToSend);
    writer.Close();

    HttpWebResponse rsp = (HttpWebResponse) req.GetResponse();
    Stream stream = rsp.GetResponseStream();
    StreamReader reader = new StreamReader(stream);
}
```

```
string
availproResponse = reader.ReadToEnd(); //use availproresponse
}
```

XV. Project steps and certification by D-EDGE

Here is below the usual project steps to develop, test and certify connection of D-EDGE channel manager to distribution systems. The following steps assume that partnership agreement or contract have already been signed between D-EDGE and distribution partner.

1. Development and Q&A

During this step, distribution partners have dedicated partnership project managers & technical contact to help for any questions. Contacts will be given by the D-EDGE team.

2. Providing endpoints and test hotel configuration

Once the distribution partner has completed the development, the list of endpoints for each functionalities as well as test hotel configuration must be provided to the D-EDGE team. Here is the list of required information

- URL/Endpoint of XML service to get hotel configuration
- URL/Endpoint of XML service for update planning
- URL/Endpoint of XML service to retrieve bookings
- A test hotel configured on distribution system that reflects typical hotel configuration of the partner (depending on possibilities)

Also, here is a list of requirements that are not mandatory **but would allow to speed up the testing process**

- Extranet/backoffice access to the distribution system to view/edit test hotel information (rooms, rates, planning, bookings, etc.)
- A booking engine on the test hotel to generate bookings (that will be provided to AvailproConnect)

3. Test Phase 1: Basic behavior

When all the information are given, the first test phase can begin, and it consists in doing several basics tests such as

- Checking HTTP responses for each functionality
- Checking XML format returned depending on basic update cases: Success, Error or Warning expected
- Checking XML content return for reservation retrieval

If there is any feedback, D-EDGE team will give detailed feedback. This phase should be performed **in maximum 3 test sessions**.

4. Test Phase 2: Production test and certification

After test phase 1 is finished, the D-EDGE channel manager will be configured in order to test the behavior in the production environment.

When configuration is done, a D-EDGE test hotel will be connected to the test hotel of the distribution system, simulating a real channel connection. Also, a PUSH booking URL will be provided with the basic authentication credentials.

When everything is ready, a certification date is planned (live test session) in order to validate all possible business cases depending on distribution system possibilities. During this certification, D-EDGE team will test

- Real time updates of planning (availabilities, prices, restrictions)
- Real time integration of reservations/modification/cancellation and check of their content

This phase should be performed in **maximum 2 live test sessions**.

5. Pilot phase – Move to full production

When certification is finished, the next step is to connect pilot hotels, and for that it might be required that the distribution system moves their development to the production environment as well. Therefore, some changes might be needed also on AvailproConnect to reconfigure the D-EDGE channel manager. Here are necessary information to be given to D-EDGE team

- List of URLs on production environment, hosted on a **secure domain / HTTPS** compatible with TLS 1.2
- Credentials for production environment
- Functional documentation to be completed (given by D-EDGE team after certification)
- List of potential hotels to be connected

Please note that AvailproConnect PUSH Booking URL & Credentials won't change and will remain the same as the ones given in previous step.